

The Australian COMMODORE and AMIGA REVIEW

Cinematic Entertainment



Dragons Lair

- Elite
- Zak McKracken
- Double Dragon
- TV Sports: Football
- Preview: Deluxe Paint III
- Overcoming mice problems
- C64 Save and replace bug exposed



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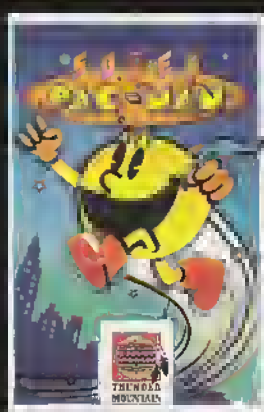
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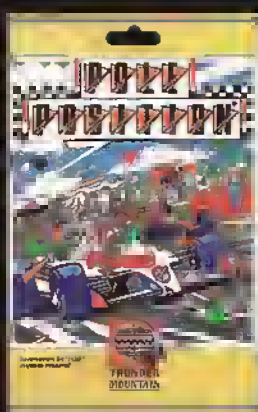
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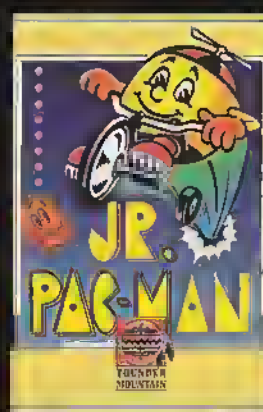
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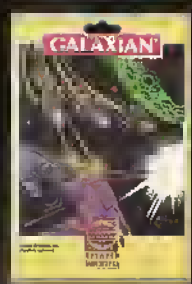
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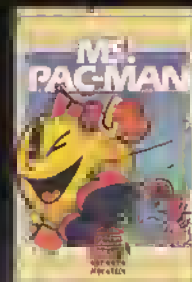
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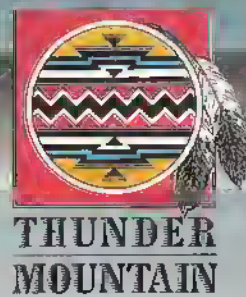
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The Australian COMMODORE and Amiga Review

VOL. 6 NO. 4

April 1989

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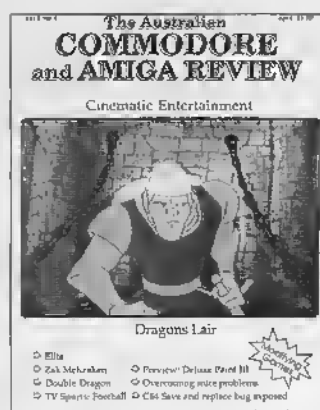
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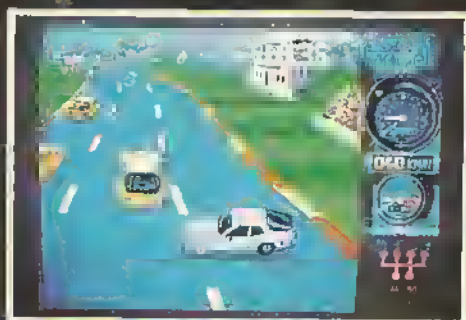
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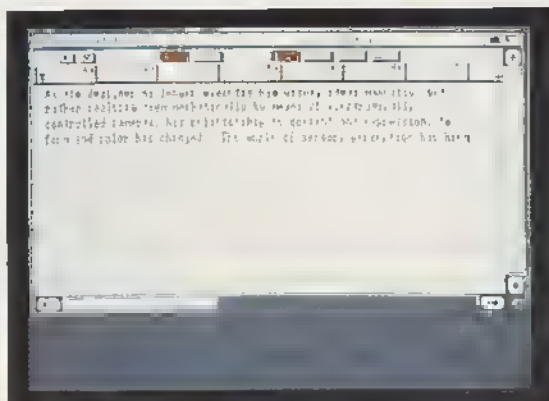
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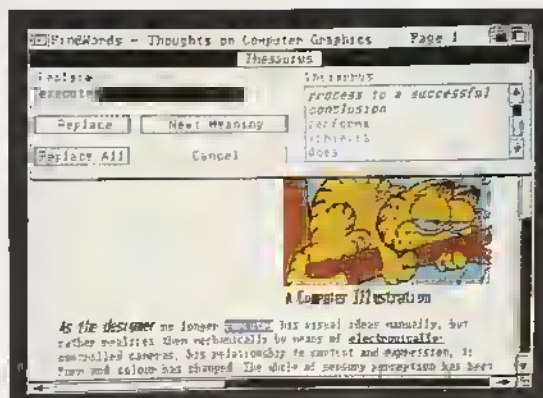
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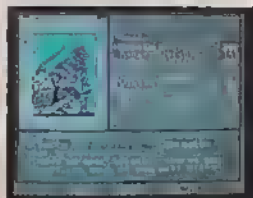


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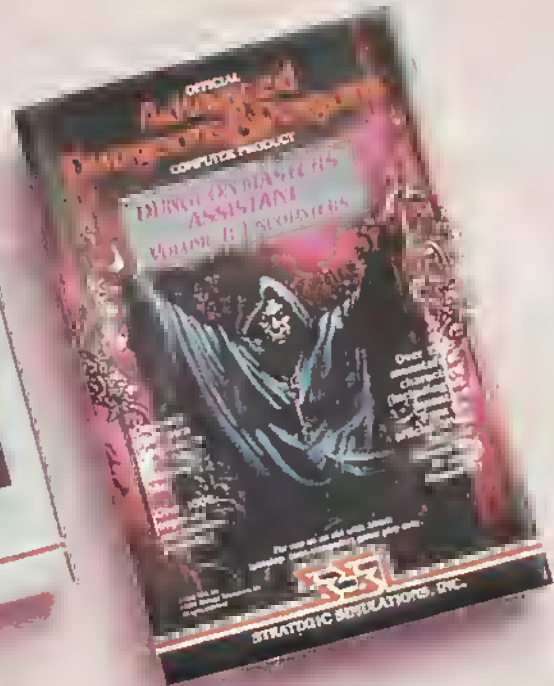
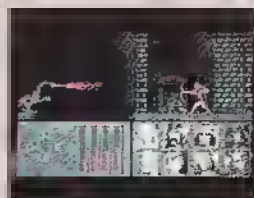


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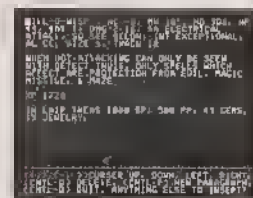


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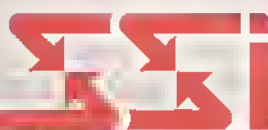
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Editorial

Hackers are breeding. They keep appearing on the front page of sensationalist newspapers. They fill the talkback radio shows. Come on guys. You can't be serious. There are no hackers in Australia - not the truly criminal type. Not the type the media would have us think exist.

Let's look at it logically. Hacking, according to the big media boys is when a person, using their own genius, breaks into a computer system of some note. Now this may happen - but not due to any brilliance on the part of the intruder - and even then hardly ever.

Think about it. If there are two passwords, both eight characters long, that's sixteen possible positions for 26 letters of the alphabet. The number of permutations that calculates out to is alarmingly big. So, guessing the two passwords would be near impossible.

Next, you have a long string of levels of access - with additional passwords. Then there is the encryption of data to the modem - with a decryption program required to understand the information as it spews out of your newly found host. There are constant security checks by the system and more. Now if you get past all that, chances are that you work at the institution, know someone else who does, or have some other form of inside information.

The problem then ceases to be one of hacking. It is one of internal security - which only employee honesty and carefulness can save. People who work at banks, law firms, and other places where sensitive information is filed need to be very careful with passwords. But they are not as a rule.

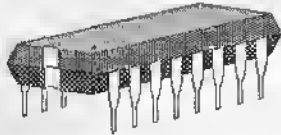
You find passwords stuck to the side of terminals, written in diaries, in purses or wallets. They use surnames, first names, food, girl friends' and boy friends names. It's then that the hacker - with inside knowledge - can get in. But with proper security the intruder won't stay long. Besides - at that level access to the system would be very limited.

If there are any Commodore hackers out there that can tell us otherwise - we would love to hear from you. You'd better be quick, because the laws are changing. Soon hacking will be a real criminal offence. Who will they catch? ■

Starting this issue, CLUB AMIGA owners will be receiving *Australian Commodore and Amiga Review* as part of their membership. We welcome you to our magazine, which is an independent, fully Australian produced publication. Feel free to send us a note if you're having hassles - we answer the best letters in our monthly letter column. Hope you enjoy the articles.

Andrew Farrell

RAM Rumbles



Guest Writer: Dan Gutman, US.

Interactive TV becoming a reality

If *Wheel of Fortune* is going interactive, you KNOW people are growing dissatisfied with passive entertainment and are looking for something more.

A futuristic new *Wheel of Fortune* home game (US\$80) from Mattel enables viewers to play along with the hit television show. You aim a hand-held electronic device at your TV set. It picks up an encoded signal that activates the little computer inside. You don't just watch TV, you INTERACT with it.

Mattel is reportedly working on six similar TV products.

The idea of interacting with our television sets has been around for years. Warner-Amex Cable even got their QUBE system off the ground for a while in the early 1980s. But Warner was forced to cut costs in 1984 and pulled the plug on QUBE.

Now, many people believe interactive entertainment (IE) is about to take off.

"The business is poised for a major breakthrough with new products in interactive TV, videotape, and optical discs set to reach the market within the next year," claims Michael Mascioni. Mascioni is the director of "Inter-tainment '88," the first conference on interactive entertainment, which took place last month in New York.

Here are a few of the things going on right now in the field of interactive entertainment (IE).

- **Interactive optical discs:** A new format called Digital Video Interactive (DVI) puts 72 minutes of full-motion video on a standard compact disc. We'll be able to "play" an encyclopedia on our computers, complete with pictures, sound effects, animation, and music.

DVI was developed by General Electric, but last month Intel Corporation acquired it and promises software in the first half of 1989.

Other optical disc formats are coming, too. DVI puts the image on your computer screen, while "CD-I" (compact disc interactive) will require a separate appliance that will be plugged into a television set.

Videodisks aren't dead, either. The Voyager Company in Los Angeles has put together an interactive tour of the Louvre museum in Paris, as well as many other interactive titles.

- **Interactive television:** The Interactive Game Network (IGN) uses a console that looks like a laptop computer and has a built-in receiver and modem. When hooked up to a TV, it can also be used for instant opinion polls, lotteries, TV auctions, and home shopping.

The president of the company is David Lockton, who pioneered the use of FM subcarriers to transmit stock quotes. He plans to introduce The Interactive Game Network next August.

Another system in the works is "The HomeQuiz System" developed by Response Reward systems of Vero Beach, Florida.

Players watch ordinary game shows on TV and have the opportunity to win cash and other prizes by answering the questions correctly through a key pad and printer that communicate via sidebands and vertical blanking intervals.

- **Interactive theater:** On Broadway, two productions currently are getting a lot of attention. In *Tamara*, audience members roam from room to room in an Italian villa, sometimes even bumping into the actors who move through the villa with the audience.

At *Tony 'n' Tina's Wedding*, the audience functions as the real guests at a wedding. After the ceremony, the audience follows the cast down the street to observe what goes on at the reception.

Update

By the time you read this I will probably be well on my way overseas, and I hope you all appreciate how tiring these trips are. I make this point because too many people think that going overseas is a terrific thrill and is basically the same as a holiday but I can assure you that were it not for the need to find you new and exciting programs I would not go at all.

Talking about new and exciting programs, please have a look at our advertisements in this issue about PIONEER PLAGUE and TURBO CUP, both Amiga games of the highest quality. TURBO CUP is going to be the top seller over the next couple of months, I believe, and not just because of the free Porsche. Also recently arrived for the Amiga is CHAMPIONSHIP CRICKET, a fascinating game that will keep you interested for months. Another new book has been added to our Amiga library - 3-D GRAPHICS PROGRAMMING IN BASIC, and there is of course the accompanying disk as well.

For C64 owners we have just received shipment of 18 new titles, some Educational - KID WRITER, KINDERCOMP; Productivity - THE HOME BANKER, THE KITCHEN MANAGER, etc; and Games - SKY RUNNER, STRIKE FORCE COBRA. There are many others which I will elaborate on next column, but I do want to especially mention that we have finally got copies of ALF on both Commodore and PC. ALF, of course, is based on the lovable TV creature of the same name, and you have to help him collect all the pieces from the crash landed space ship in a race against time, and the dog catcher - super fun!!!

BWFN

Advertisement

Commodore and Amiga Review 7

The box office success of these two shows is sure to encourage more interactive theatre efforts. Ever since I saw *Tamara* several months ago, I get squirmly watching a plain old play in which the audience is bolted to their seats.

Futurists are looking forward to the day when we can watch a football game and pick our own camera angles, take Humphrey Bogart out of *Casablanca* and insert the current star of our choice, and elect the next President with a little key pad attached to our television sets.

Recently, Batman comic readers were given the opportunity to vote on whether Robin should live or die. Thousands of calls flooded into the 900 number, which proved two things:

1. People like the idea of influencing the course of their entertainment.
2. People don't like Robin.

Either way, the Boy Wonder has just left Gotham City for good.

The computer virus and AIDS

Nobody has died as a result of a computer virus, but one can't help but draw similarities between this recent problem and the more devastating human problem of AIDS.

"Computer viruses", which have been around for several years but are suddenly in the news, were so named because they mimic biological viruses. They are essentially intentional bugs placed into a computer system from the outside.

Once inside a computer, the virus copies itself and spreads to other computers in a networked system or through software passed around among computer users.

A computer virus propagates slowly from machine to machine, all the time hiding in the background. Sometimes it's a harmless prank; other times it can destroy valuable information.

Not to trivialize AIDS, but the problem of computer viruses is also a very serious one. The recent virus created by a 23-year-old graduate student (I won't glo-

rify him by mentioning his name) has already cost \$96 million in damages, according to the Computer Virus Industry Association. There have been 800 other incidents in the last eight months.

Both the AIDS virus and computer viruses are spread by exchanging something between people: blood in the case of AIDS; data in the case of a computer virus.

Both were brought to national attention by a high-profile incident. With AIDS, it took the death of a celebrity - Rock Hudson - for the general public to pay attention. With computers, the recent virus that clogged the Pentagon's Arpanet research network and brought 6,000 computers to an electronic standstill suddenly made the issue front page news.

The publicity that both these tragedies attracted is serving a positive purpose - alerting the general public to the seriousness of the problems.

Both problems will change the way people behave forever. With AIDS, the Sexual Revolution essentially came to an end. With the threat of computer viruses, the first decade of free flowing data exchanged among computer enthusiasts is over.

From now on, we all have to be more careful about where we're logging on and with whom we're swapping disks. Both problems cause a certain amount of distrust among strangers.

Both problems put limits on how we conduct our affairs. "Just Say No" is a catchy slogan, but you can't force people to stop having sex, just as you can't prevent people from touching other people's computers and software.

In a less democratic society, both problems might be dealt with in similar ways.

With AIDS - the authorities might isolate all those infected; put them in a place away from the rest of the population.

With computer viruses - for people who are suspected of pulling electronic pranks, the authorities could take away

their freedom to own a computer, or restrict their access to information.

In the U.S., we simply don't do things that way and have to solve problems in ways that don't infringe on people's personal freedoms.

In both cases, our best course of action is to use caution. As scientists struggle to find a cure for these problems, it would be prudent for the average citizen to behave in such a manner that his or her system is not infected by ANY kind of virus.

Hotline

● The new commercials for the Commodore Amiga were produced entirely on the Amiga itself. (Will we see them in Oz?)

● Parts of Disney's new *Oliver & Company* were animated by computer. Their new CAPS system is making it possible for Disney to stick to its schedule of one animated feature every year.

● The most outrageous new computer software package is *SwimWare* from Hi Tech Expressions (212-941-1224). The disk includes 12 digitized photos of models in bathing suits, which can be inserted and printed into your own personalized weekly, monthly, or yearly calendar through the year 1999.

I don't know - I always thought looking at pictures of digitized women is kind of like kissing your digitized sister.

Information Online '89

The Online Information Conference and Exhibition has become an annual event in Sydney during January and marks the largest and most important convocation of information producers in Australia.

Delegates at the Conference attended sessions on the application of database services for agriculture, tourism, finance and the law, and were presented with the latest information on the use and availability of new technologies such as compact disc storage and networking.

The Exhibition was noteworthy for

its extensive examples of the use of CD-ROM. Lawyers and doctors would have been impressed by the compact disc databases on offer, but more impressive were the workings of the Search Tech archive library.

Search Tech specialize in transferring visual collections onto a laser disc, which can store 108,000 separate images and retrieve any image within seconds. You may have noticed their terminals at Darling Harbour's First Stat 88 exhibition, where a collection of historic photographs was presented using this system. Search Tech will even place your own photo collection on laser disc - for a hefty fee.

Information Online '89 was held at Sydney's Hilton International from January 17 - 19.

Conference notice & call for papers

The Fifth World Conference in Computer Education (WCCE/90), organized under the auspices of the International

Federation for Information Processing (IFIP), will be held in Sydney, Australia, July 9 - 13, 1990. WCCE/90 will be a conference for all aspects of computer related education in all education environments. For Australian educators, the convening of this major international conference in Australia will provide an unique opportunity to present and attend papers. Draft papers will be required by October 1, 1989. For further information please contact: WCCE/90, PO Box 319, Darlinghurst, NSW 2010, Australia. ■

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c64 ers...

Genealogy Update

After all those letters and articles on genealogy, we received this informative letter from the United States. (You never know where this magazine ends up!) It reads:

"I was pleased to discover that you had published a review of our *Family Roots* genealogy software for the Commodore 64. I would like to bring four further points to your attention.

"... price of *Family Roots* was raised to \$225.00 (US) formerly \$185.00 (US).

"In early 1988 we introduced a series of lower priced genealogy software for the Commodore 64, called *Lineages! Starter*, *Lineages! Standard*, and *Lineages! Advanced* priced at \$29.00 (US), \$49.00 (US) and \$99.00 (US) respectively. These produce data on disks fully compatible with the higher priced *Family Roots*, and a registered customer may upgrade at reduced prices to a more capable version at any time. We would be glad to send details to any of your readers upon request. A sample of our literature is enclosed.

"The article mentioned the possibility of an Amiga version of *Family Roots*. We have no immediate plans for that, but were recently convinced of strong Amiga interest at the World of Commodore show we attended in Toronto. The only current product for Amiga would be our IBM compatible version for the Amiga 2000.

"Our genealogical software is distributed in Australia through Victorial Genealogists Using Micros, 5th Floor, 252 Swanston Street, Melbourne 3000. We also accept direct orders."

Quinspet, Inc, P.O. Box 216, Lexington, MA 02173.

Disk Doctor

A new software/hardware distributor called HPD or Hardware Peripheral Distributor has been formed. They carry the Tristar range of products including the popular Expert cartridge.

A recent release includes the Drive Doctor which provides a low cost alternative to aligning your 1541 disk drive. The package includes comprehensive instructions, a tape for loading the alignment software, and an alignment disk which contains special data. RRP is \$42.95. Watch for a full review soon. For further information call HPD on (08) 252 3300.

The Expert V4.1

Hardware Peripheral Distributors have released the latest optional enhancement disk for the Expert Cartridge. The new V4.1 disk includes many features that have not been previously available.

New features include full screen viewer including sprites, fast save of backup and picture screens, full memory fast load/save, real time picture editor, convert a standard resolution screen into a picture, load save and edit pictures, and lots more. (See HPD's advertisement on page 26 for a full list.)

The Expert Cartridge, already established as a good back up utility, coupled with the V4.1 disk becomes one of the most comprehensive back up cartridges on the market.

For further information contact HPD on (08) 252 3300 (dealer enquiries welcome).

TASWORD 64

Tasword 64, the professional word processor for the Commodore 64 computer. With 80 character per line display, what you see on the screen is what you get in your print out.

Other features include onscreen formatting, comprehensive help commands, full cursor movement control, delete, insert, tab, search and replace, block commands, sophisticated print options and program customization to suit all dot matrix printers.

Price

Cassette \$43.00

Disc \$49.95

TAS-SIGN 64

Tas-sign 64, the sign maker program for Commodore 64 computers. Allows production and printing of signs, posters, banners and large notices. Print across or along the printer paper in six distinctive lettering styles with characters of any height from less than 25mm to the full width of the paper. Other features include italic printing, underlining, constant or proportional letter spacing, automatic kerning, line centering, 8 shading patterns, borders, and the ability to drive nearly all dot matrix printers.

Price

Disc \$59.00



Australian Distributor

dolphin computers pty ltd
unit 2 7 waltham st
artamon nsw 2064
telephone (02) 438 4933
facsimile (02) 438 1480

At discerning computer shops or mail order from Dolphin. Mail \$1.50 or/night courier \$7.00. Enclose cheque/money order/Bankcard/Visacard/Mastercard details. Prices include sales tax and are recommended retail.

● Dealer enquiries welcome ●

Notepad

Notepad

News from the USA

● What would you say to your Amiga being able to display 320 colours on the screen at once, with an interlaced display giving a resolution of 2160 X 1440?

Broadcast Titler by Innovision Technology does just that for \$US299.00. This new Video Titling program uses a sophisticated window management technique to achieve what is dubbed by Innovision a "Super Hi-Res mode". The program was written by Jim Schneider, who also authored *Video Effects 3D*. Mr Schneider has stated that there would be no problem in creating graphics and painting tools while in the Super Hi-Res mode, so perhaps we can look forward to *Super Hi-Res Paint* in the not too distant future.

In the interim, *Broadcast Titler* (requiring a minimum 1.5 Mgs of RAM) is a landmark titling program, in that it accepts all standard Amiga fonts, can extrude them into 3D, permit multiple font colours on the same screen, has over 100 line and page transitions including: roll, tumble, teletype, mirror, flash, blink and many many others. Various backgrounds can be placed behind the text, and all functions are virtually instantaneous. In short, if you want broadcast quality titles for

your videos, this is one program well worth considering.

● Readysoft, the people who gave us *Dragon's Lair*, unveiled a *Macintosh Emulator* at the World of Commodore exhibition late last year. The package is a hard/software combination which plugs into the Amiga external drive port, and allows you to run "nearly application program now running on the Macintosh" but the clincher being that most graphics packages will actually run faster on the Amiga due to it possessing a blitter chip. The device uses Macintosh ROMS and is expected to cost around \$US200.00.

● I have some more information on the *Sculpt Animate 4D* upgrade package for registered users of *Sculpt* and *Animate 3D*. Remove the covers of both manuals and send them, plus \$US250, directly to Byte by Byte in Austin, Texas. This price covers the upgrade and postage to Australia.

● New Tek will be releasing their Video Toaster by about March. This device is a real time special effects generator, which will fit into the video slot in the Amiga 2000, thus making it capable of generating video effects that most television stations would be proud of. Images can be scrolled, shrunk, zoomed into, pixelated, kaleidoscoped, mosaicked, mirrored, muraled and

much, much more. I frankly cannot get too excited about this product as, firstly it is expensive at \$US1500 (about) and secondly, it uses NTSC standard video signals. Unfortunately development is still being done for the NTSC system, so when and if a PAL version will be available is anyone's guess.

● *Caligari*, a super fast 3D Modeling and Scene Creation program, is now available as a pre-release version from Octree Software. What makes the program unique is that rather than using a trivial (*Sculpt 3D* etc) or perspective window (*3 Deamon* etc) the user is presented with a 3D screen, within which you can move about via the mouse and create, move, enlarge, rotate and join objects, virtually within real time. Once you are happy with the little world you have created, scenes can be rendered, with each scene requiring from about 2.5 seconds to two minutes to render (depending upon complexity) and then ported to a single frame video controller.

This program is really all singing and all dancing with many features and is aimed at the professional market. It may also have the most impressive price tag seen for the Amiga so far, at \$US2000.00 !! - *Peter Ward*.

286 add-in board for Amiga

Commodore Business Machines has introduced the Commodore A2286D Bridgeboard co-processor card that

gives the Amiga 2000 computer series MS-DOS compatibility. The new Bridgeboard card fits into the Bridgeboard expansion slot in the Commodore Amiga 2000, 2000HD or 2500 and provides access to the vast library of MS-DOS software.

The Amiga's multi-tasking environment allows the user to run an MS-DOS application in one window while Amiga applications run simultaneously in other windows. For example, a user can run a *DBase III+* data search in one window, compose a letter using *Amiga WordPerfect* in another window and chart sales figures using *MaxiPlan Plus* in the third window. All programs and applications can run simultaneously and data from each will be instantly available.

The Bridgeboard contains an 80286 CPU chip, running at 8 MHz, 1 MB of RAM and a socket for an 80287 math co-processor. In addition to AT software compatibility, the bridgeboard also allows the installation of AT compatible hardware add-ons in up to three slots in the Amiga's CPU. In addition, the system allows a single hard disk drive to be shared between MS-DOS and AmigaDOS. The A2286D comes standard with 1.44 MB 3.5 inch floppy disk drive.

The latest Bridgeboard software included with the A2286D also makes true multiprocessor applications possible. An excellent example of this would be to use the Bridgeboard to process math intensive tasks while the

Amiga is rendering the graphic result.

The A2286D Bridgeboard will be available through authorized Commodore Amiga dealers and has a suggested retail price of \$1,599 (US)

Amiga accepted by Victorian Education Dept

Amiga's placement on the General Purpose contract for supply of computers to primary and secondary schools, is a first in Amiga's history. The acceptance involves the Amiga 500, Amiga 2000, 1084 monitor and the MPS 1250 printer.

Previously listed in other States on Special Purpose contracts, the Victorian Education Department has obviously taken notice of the position of Amiga as Australia's leading small business microcomputer.

"This is a significant breakthrough for Amiga technology, and marks the start of Amiga's move to become THE Australian Educational standard," says Tony Serra, Managing Director Australia and Asia Pacific.

"The success of the Amiga is due to a mixture of its graphic capabilities and its general all purpose computing solutions, which are ideal for education," he continued.

In order to gain acceptance by the Department, machines are selected on a points basis, with points awarded for applications software, after-sales support and machine pricing. The higher the points, the better the chance is of being selected.

The integrated package rec-

ommended for use with the Amiga, is *Critics Choice*, which contains a wordprocessor, spreadsheet and database - all mouse controlled.

Amiga Stereo Audio Digitiser

In January of this year Hardware Peripheral Distributors imported Trilogic Amiga Audio Digitiser. The product has been well received by Amiga users, to the extent stocks were sold out within weeks.

It has always been the policy of HPD to source the products users request. Consequently, after many enquiries for an Amiga Stereo Digitiser they are pleased to announce the unit is now available. It is realistically priced and is compatible with most sound software on the market, for example *Audio Master* and *Perfect Sound*.

For further information contact HPD, telephone (08) 252 3300.

New font packages

ProFonts Volumes I and II, two font packages for the Amiga computer, have been released by New Horizons. The *ProFonts* packages contain high quality fonts for use with their best-selling Amiga word processor, *ProWrite*. The fonts contained in Volume I are of a professional quality, come in a broad range of sizes, and are suitable for correspondence and reports. Volume II contains fonts of a more decorative nature, which are useful in enhancing the appearance of *ProWrite* documents. Both *ProFonts* packag-

es can be used with other programs that can utilize Amiga fonts, including *Deluxe Paint II*, *PageSetter*, and *Notepad*.

"The fonts in the *ProFonts* packages were designed specifically for word processing and desktop publishing using dot matrix printers," said James Bayliss, president of New Horizons Software. "When used with a high resolution printer, such as a 24 pin or laser printer, these fonts produce excellent results."

Both *ProFonts* packages include "System Mover", a utility for moving fonts and other system files from one disk to another. Using System Mover simplifies the installation of fonts on Workbench disks; the user simply chooses the font or fonts to be installed and the program automatically handles changing and updating the appropriate files.

The *ProFonts* packages will each have a suggested retail price of \$34.95 (US). *ProFonts* Volume I will be released in December 1988, with Volume II to be released shortly thereafter. Both *ProFonts* packages will be available from all major Amiga software distributors, as well as directly from New Horizons Software, Inc.

New Horizons specializes in personal productivity products for the Amiga computer. Their products are distinguished by their flexibility and ease of use. Products currently available from New Horizons Software are *ProWrite*, the best selling Amiga word processor, *Flow*, the Amiga idea processor, and *ProScript*, a *PostScript* utility program

for use with *ProWrite*.

Superplan - Spreadsheet

From the makers of *Superbase Professional* comes yet another spreadsheet - this one is more powerful than some other offerings. You can activate your spreadsheet functions from conventional pull down menus, on screen function buttons or standard slash commands. Multiple windows may be used for the same operation. Simple redisplay commands show graphs change as you modify the underlying data.

You can set the dynamic Help feature to run in its own window and pull it to the front whenever you need it. Edit the menu file to add your own preferred menu options, and use the comprehensive macro language to program complete application from data entry through to reports, setting up your own slash menus.

Superplan's ARexx support allows for free exchange of data with other programs - *Superplan* integrates fully with *Superbase Professional*, a popular Amiga database. Using ARexx you can use the extensive graphics capabilities of *Superplan* to generate graphs from *Superbase* data, then send them back to display in *Superbase*!

Spreadsheet dimensions stretch to 2048 rows by 1024 columns - *Superplan* provides full colour output to a wide range of printers and plotters - even sideways and compressed for clear output of extended timeplans or spreadsheets.

There's also time manage-

Would you rather keep pace? Or keep ahead.

The reviews of the Amiga 2000 have been overwhelming in their praise.

Rightly so.

Its major features are tailored to keep you a jump ahead of the business pack.

The premier feature is undoubtedly multitasking. This lets you run virtually unlimited programs simultaneously.

Documents, presentations and the like are quicker to prepare and more impressive in their appearance.

Full colour graphics – 4096 colour shades – boost your impact, on screen and on paper.

Amiga's internal expansion ability shows all concerned that you make sensible investments.

Future additions are accommodated within the system easily and economically. More power and greater capability.

Should you need to be MS-DOS compatible, perhaps for working at home, Amiga is capable of running both



Operating Systems. A very simple expansion.

65,000 Amigas have been sold in Australia. 850,000 Amigas worldwide.

Accordingly, the software collection for Amiga is as diverse as it is numerous.

Titles like WordPerfect, Professional Page, MaxiPlan, KindWords and Superbase.

A strong business and graphics package for building a stronger business. More are being added.

This is a computer with a career.

Having read this far, you're obviously interested in keeping ahead.

So, as an introduction to Amiga's possibilities, your Commodore dealer will give you the software you need to begin powering ahead.

Smart business people are guiding their future with Amiga.

AMIGA 2000 from Commodore

S M A R T E R .

FOR FURTHER INFORMATION SEE YOUR LOCAL DEALERSHIP

Amiga, Amiga DOS, Workbench and Kickstart are trademarks of Commodore-Amiga Inc. IBM-PC is a registered trademark of International Business Machines Inc. Microsoft and MS-DOS (Microsoft) are trademarks of Microsoft Corporation. Specifications are subject to change without notification.JSA COM 0281

Notepad

ment features to track time, as well as money and other resources to give a complete picture of your project plans.

Critical Path Analysis - chart the steps of a project to visually portray the critical elements and timings. The powerful spreadsheet analysis features automatically adjust the critical path to reflect any changes you make to the timings.

For further information talk to your local Commodore dealer.

Amiga Accounts

Sybiz, a developer of popular PC accounts packages, has released a new program giving a serious edge to the Amiga business market. The package is called *EasyLedgers*.

Sybiz is no newcomer to software development. A previous accounting package, *Bookworker*, has enjoyed worldwide sales of over \$3 million. *EasyLedgers* was developed from *Bookworker* specifically for the Amiga.

EasyLedgers is claimed to be extremely user friendly. It uses the basics of familiar bookkeeping and organizes your information into four computerized "books". There are no complicated codes to learn, no account numbers to remember. You simply place accounts in those books, point and click the mouse.

The four "books" in the *EasyLedgers* package are:

1 **Sales** - Using the open item or balance forward accounting method to control the debtors' ledger.

2 **Purchases** - A credi-

tors' ledger also using the open item/balance forward method, but including the facility for entering suppliers' invoices, credits, payment and journal adjustments.

3 **Ledger** - With optional account number of up to 10 characters, with full facilities for posting. Two password levels and "bullet proof" audit trails for security.

4 **Inventory** - Stock control and pricing book. Handles three price scales with automatic price changing facilities.

EasyLedgers requires only 1MB of memory and a single disk drive in the Amiga for up to 700 accounts. More accounts may be added by using a second disk drive, or more memory if there are more than 2000 accounts.

The *EasyLedgers* package is available from 1 February, in two formats: all four books (Ledger, Sales, Purchase and Inventory) retail for \$995.00. For businesses which do not carry inventory (eg. professional services) the first three books are available for \$595.00.

Sybiz has just completed arrangements for distribution in Europe and the United States.

US users get PAL pictures

All animators and artists await the full one megabyte version of the graphics hardware - and so too do the Americans. A smart hardware design will mean PAL pictures can be displayed on NTSC machine. This means

we will see an end to the dreaded black bar at the bottom of screens.

Version 1.4 of Kickstart will support numerous enhanced aspects of these new chips - especially useful for desktop publishing. *Professional Page* is making strong inroads in the DTP market, although some users have expressed a desire to see a more powerful package.

CBM get serious

Commodore's serious arm, CBM, have an image problem. That is all about to change according to Tony Cuffe, who sees the new A2500 (herein called the CBM2500) range as a giant step forward into the business arena. Several government departments were recently approached regarding the new machines.

CBM has been set up to sell "Workstations" which will be the 2500UX and 2500AT with all sorts of interesting peripherals like genlocks, etc. for high-end video production work and the like. Dealers who sell these systems must satisfy strict requirements. We wonder how many dealers will qualify.

Ami-Expo - US

Recent news from the latest AmiExpo in Los Angeles indicates a distinct shortsightedness on the part of many developers - it seems there's a tendency to develop add-ons for the A2000 only ... one reporter tells us about 75% of them were exclusively for the 2000. Don't they realise that

the market is in the A500 and still too in the A1000? Either of these machines can be made into the full equivalent of the A2000 with its add-ons if required, since there are "card cages" available to take the A2000 cards. I'm told that even the "Flicker-Fixer" can be linked up to these two machines if necessary, since all the signals are available through the back of them. -

Tim Strachan

New products

F-BASIC - Adrian Sheedy is working on this one - and according to early appraisals it looks set to be a very competitive alternative to other BASICs out there. Code may be interpreted or compiled, with many advanced Amiga type features being supported.

Magellan AI - A demonstration disk arrived on my desk too late for inclusion in this month's magazine - but it looks very well supported. There's newsletters, clubs, updates and lots more happening. *Magellan AI* (Artificial Intelligence) by Emerald Software - is supposedly very good compared to other products on different computer brands. Retail in the States is \$195.

Pageflipper Plus FX - devised to edit, create and control animations rather than actually render them, it uses the output of other graphic, ray-tracing and animation programs. It will chain animations across a number of disks, and is only limited by the Ram in the system. It also has an interactive program-

ming language for full control, and creates fast small files. It looks like there will be a lot of support for this program, and there is already a PD player called PlayPFX. From: MindWare International, 110 Dunlop St West, Box 22158, Barrie, Ontario, Canada L4M 5R3. Direct orders: Tel: (800) 4615441. - TS

New hardware

Lucas Accelerator Board - This is a "Hardware Shareware" project detailed in a recent Amazing Computing issue, which provides you with a 68020 accelerator bare board, list of parts and instructions (on disk). According to Chris Ralph, who got it going on an A1000, it does work with some fiddling. However, there are problems with DMA hard disks, it's hard to seat the processor in the 120-pin slot, and you can't replace the metal shield on the back of the computer. Apparently it would be possible to fit it into an A500, though you mightn't be able to close the computer lid! Chris estimates that all up it'll cost you about A\$1000 - for more information, call him on (02) 511050. - TS

BUGS/Updates

● *WordPerfect* - the saga goes on ... Greg Perry reports the loss of large blocks of data when cutting and pasting big chunks. Seems that WP goes into a spin and keeps chewing up RAM until there's nothing left. Any other WP bugs around? Let us know. See Upgrades for local WP info.

● *Ferrari Formula 1* - doesn't let you move to 1987 after you've become World

Champion in 1986, seems you have to start all over again, according to Tom Grant who wears leather gloves and goggles at night ... not a bug perhaps, but it's some sort of insect.

● *LOADWB* - seems there is a small bug which makes *LOADWB* take 20K every time it's opened and doesn't let it go once the screen is closed. Mind you, it's likely that you'll only open it once in any session, but there it is!

● *WordPerfect* (They keep coming!) - There's an update, dated 10/8/88, which fixes a few things such as spell and utility bugs. Contact: WordPerfect Pacific at 15 Merriwa St, Gordon 2072, Tel: (02) 4987155, and ask for Lynn Oker. Apparently Version 5.0 is being worked on for the Amiga right now, and in late '89 Version 6.0 is coming, said to be fully Amiga-ised and WYSIWYG. The *WordPerfect Library* is available from them too for \$225 RRP, and also in late '89 they'll be releasing *Plan Perfect*, a spreadsheet for the Amiga. The current version for *WordPerfect* for the Amiga is 4.1.

● *FACCI* - There's an upgrade, *FACCI11*, coming, which I'm sure will be in the great tradition of ASDG's programming. This is a program which speeds up floppy disk access astonishingly, at the expense of some memory. Check "Hints&Tips" for more about speeding disk access. - TS

(Thanks to Tim Strachan of Megadisc for various contributions to Notepad this month.)

ARTSCAPE

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LETTERS

TO THE EDITOR

Amiga high scores

In the November issue of *ACR* I saw that you had a high scores table for the C64. Here, I also saw that I could double the high score for *Arkanoid*. However, I am an Amiga owner, and, after quickly looking for an Amiga high scores table, found there wasn't one.

This brings me to the reason for writing this letter, and that is to ask for an Amiga high scores table. I have listed some of my games with my high scores. I can assure you that these are genuine. However none of the scores are particularly mind blowing anyway, and will make others send in their even higher scores.

Also I am disgusted at the amount of Runsoft high scores in the C64 high scores table. If they played Amiga games, I don't think I'd let them beat me without a fight.

Arkanoid	213,920
Backlash	25,719
Mousetrap	6,239
Rolling Thunder	72,500
Mission Elevator	15,000
Test Drive	36,112
Marble Madness	59,540
Dark Castle	62,920
Tracers	4,871
Fire Power	610
Crystal Hammer	25,950

Colin Russell

Frenchs Forest, NSW

*Ed - How about some more!
Yes, we will have an Amiga high
score table.*

☆☆☆

Dutils support

I would like to bring to your attention an experience I have had with Mike Hansell. I purchased an Anti-Virus Pak after seeing an ad for it in your magazine. The disk gave details on how to request a manual for DUTILS. I followed the instructions and wrote Mike a letter.

I did not get a reply. My bank statement showed the cheque was cleared on 25/10/88. I waited a while longer - still no reply.

In your November issue on page 67 I found Mike's new address. I wrote Mike another letter, in the hope it would produce a reply. To this day I am still waiting.

Have any other readers had this problem? Perhaps Tim Strachan, (author of the page 67 article) could help me contact Mike.

*Hans Izsolt
Inverell, NSW.*

*Ed: Tim is contactable on (02)
959 3692. Any other readers with
this problem?*

☆☆☆

CHUG new address

The information regarding the above User Group printed in the *Commodore Annual 1989* is incorrect.

The following is the new information:

Commodore Hornsby
User Group Inc
PO Box 1578
Hornsby Northgate
NSW 2077

Meets the 4th Wednesday of

each month at St Leo's College, Woolcott Ave, Wahroonga, at 7.30 pm. General enquiries to Robyn Sparrowhawk on 871 3409. Our Group covers C64/128 and Amiga.

*Robyn Sparrowhawk
Secretary*

☆☆☆

AUGWA new address

I am writing on behalf of the Amiga Users Group of W.A. (AUGWA). Could you please remove the name and phone number from the Users Group List as he no longer has anything to do with this club and replace it with the following address:

PO Box 595
Cloverdale
WA 6105

*Hank Horsten
(secretary)*

☆☆☆

Cassette magazine?

I am 14 years old, and go to Mooroopna High School. I would like to ask why you do not put out a cassette magazine. You have a disk mag, so why not a cassette one? I mean not everybody's dad will buy them a disk drive, and there aren't any cassette mags (that I know of) for the C64.

It could have some of the programs on the disk as well as a turbo load program at the start.

Some of the things in the disk mag have sounded really good, but of course, not having a disk drive, they wouldn't do me much good.

D Parnell

SUPER SPECIALS

GRAND OPENING *Westend* COMPUTERS

277 ELIZABETH STREET, MELBOURNE

THAT'S RIGHT!

Commodore 64

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Kracker Jax Vol I + II \$49.95
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404 Bell St
Pascoe Vale
VIC
350 5144

Shop 86
The Myer Centre
Brisbane QLD
221 0055

Mooroopna, Vic

Ed - Too tricky and cumbersome - sorry, no can do.

☆☆☆

Amiga/C64 split

As a subscriber to *ACAR* and a 64er I would like to suggest that you "bite the bullet" and produce a C64/128 magazine and an Amiga/PC magazine. I know that Andrew's current opinion is that *ACAR* is for all CBM users and that some programs etc do overlap. I'll agree but in reality this theory doesn't work so well. As an example, if you were interested in car racing would you support a magazine if the magazine carried x pages of car racing, truck racing, drag racing, dog-cart racing etc? Or one that covered all the facets and specialized in your computer? ... I'll still subscribe even though I have to read each article and or scan first to see if the advertisement is for 64 users.

Richard Pernatin

Park Ridge, Qld

Ed - We don't agree. The US magazine INFO is a fine example.

☆☆☆

Game reviews

Out all of the Commodore magazines I read, and have read, I think that yours is the best (and cheapest!) and in this letter I have included a few things which could make this magazine even better!

When you review programs, you could give them a rating out of 100% and rate them on graphics, sound, addictiveness (or alike) and an overall rating. For eg: graphics 82%, sounds 70% and so on! Also, including both C64/128 and Amiga screen shots would make the user's choice even easier. Software is dear these days and ratings sure would help!! And one other thing, ever thought of having a cassette on the cover? Could boost sales!

Luke Lynde

Zillmere, Qld.

Ed - Ratings go out of date too quickly. - We'll work on the screen shots.

☆☆☆

Amiga and Commodore support

The January issue of *ACR* raised some very interesting points. I must say how much I agree with the article on the 128 written by Harry Waterworth and the letter about the 1581 from Richard Rumbel.

As a 128D and 1581 owner my only divergence from the views of the writers is that I think they have been much too generous when dealing with Commodore's attitude to its customers. As a company their support of their large band of faithful users is nil. Letters to Commodore for information are rarely answered, and their after-sales service is appalling.

Typical of Commodore's attitude is the total lack of information regarding the new ROMs for the 1571. The bugs they fixed are well documented by third parties, but how many users know of the new command hidden away in them? The command "UO>V1" and "UO>VO" turns the write verify off and on respectively. Use of this command can speed up the 1571 write mode by at least 30% (naturally there are dangers doing this), but how many write errors do you get normally?

Whilst the advanced features of the C64 in its day allowed them to get away with this sort of service, the Amiga has no such advantage. In fact due to their marketing, or lack of it, the Amiga has yet to sell a million computers world wide, hardly the performance of a product which two years ago was about to revolutionise the computer

industry. I was in the UK before Christmas and the Amiga was striking only by its absence. The shops were full of PC clones and Atari's with the odd Amiga tucked away in a corner somewhere, indeed Commodore UK had just dropped the price by £100 in order to try and reduce the Atari ST's 3:1 sales advantage.

When my 128 finally gives up the ghost and I look around for a replacement, a Commodore of some description will not be an automatic choice. It could have been if they had sold this excellent machine (and the C64 which preceded it) with even basic user support. Commodore does not deserve its following and we certainly don't deserve them.

Bruce Lloyd

Dapto, NSW.

Fidonet 712/206

Ed - that is all about to change (we hope!). And by the way, the Amiga has hit the magic million. We reckon you should go Amiga regardless.

☆☆☆

Disk rattlers

In your January issue on page 6 called "C64ers" you had an article about viruses called "Virus on the C64?" Well, sorry I can't send you any samples, but I hold disk rattling information you would probably find useful. The program or games are called *Bullfrog*, *Beach Head*, *Tigers Way* (from the company Gremlins) and *Tua-Yehiti* from Block Busters. Luckily before sending the games back my disk drive didn't fall apart, but if it does from another program I'll surely notify you.

Jamie Roelofs

Norseman, WA.

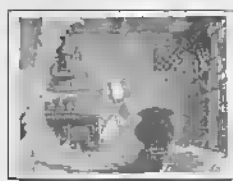
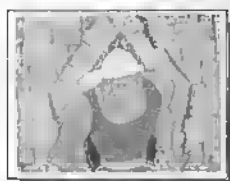
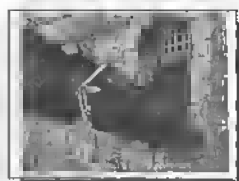
Ed - Yes, this form of copy protection can knock your drive out of alignment. We suggest a snapshot cartridge is used to make a backup.

DRAGON'S LAIR

Clicked on Games
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AMIGA

by Andrew Farrell



THIS IS what the Amiga is all about. A six disk game with some of the best animation around has hit the streets. Don Bluth, and his now legendary design group, have excelled themselves yet again.

I saw the demonstration to this program many months ago. My first reaction was that the demo disk was great but it was probably only a mock-up. Surely the final game wouldn't be that good! The laser-disk based version had been out for a long while. The backdrops in the demonstration disk had been digitised off scenes from the original. Dirk was Amiga animated.

Cynical to the last, my six disks finally arrived, and after connecting the stereo, I prepared to be disappointed. As the disk drive chugged away, the thought of six more disks of loading seemed daunting.

Scene one, the drawbridge. Left, right - I tugged in every direction. Dirk, the

daring knight, who casually strolls toward the castle door, remains set in his path. Suddenly, the bridge splits open and Dirk is tumbling through a hole beneath his feet.

Now I'm dangling hopelessly beneath the bridge. A few more desperate tugs on

sition to the murky depths below.

One man down, two to go. My next two attempts are equally unsuccessful. Your quest has ended. The screen beckons me to try again. First, I read the instructions. There's a brief section called HINTS. Here's a hint. Take every word in the hints section to heart. This is no ordinary arcade game. You are in a cartoon. Dirk can only do so many things. Timing is critical.

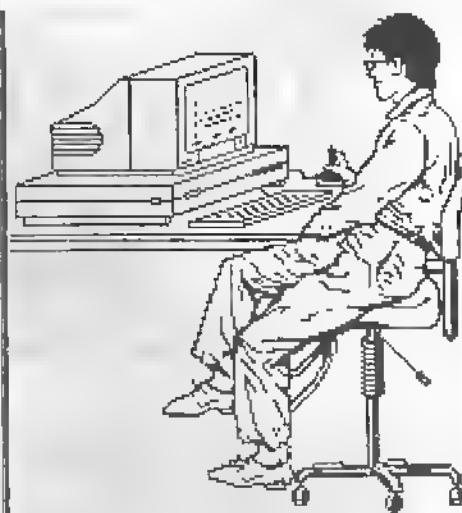
After three hours, I'm halfway through disk three. The rapids. This game is fantastic, but I'm stuck. Suitably impressed, fired up to write a review, I place the six disks in my top drawer for safe keeping.

Then, just days before deadline day, I read a message on the international Amiga Echomail area. A sequence of key strokes that enables the entire six disks to play the correct sequence right through.

Now I have seen the whole of *Dragon's Lair*, I can say without a doubt this



the stick and Dirk is still there. Moments later several long-limbed amphibious monsters reef me from my precarious po-



is the best animation in a game yet. Game play is tough. Progress is slow. But it really is captivating stuff. The end-

ing is well worth the wait. Highly recommended - if you can stick it out. More tips coming soon! ■

Review copy from Questor
(02) 662 7944. RRP Amiga \$

☆☆☆ Entertainment - Stop Press ☆☆☆

A whole stack of new programs arrived in the office just prior to press time. We couldn't resist ripping open the packets to have a sneak look at what we'll be reviewing next month. Here's a few worth watching out for:

Mercenary - Amiga

A big game on the C64, now out for the Amiga with the first part, *Escape from Targ* and the second part *The Second City* on the same disk. Brilliant line graphics, super smooth animation and a full-on adventure format in the midst of a civil war. Trade or blast your way to safety. Check it out! Review copy from Pactronics (02) 407 0261. RRP \$49.95

Lombard Rally - Amiga

This game is hot! Full rally racing,

in the seat of a Ford Sierra. Top graphics and animation - good variety of tracks. Watch for a mega-review of this one classy game. RRP \$59.95

Pactronics also have a range of other great new titles just hitting the streets. Ask your local dealer for details soon. Thanks to Pactronics for this.



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GOALS

Football

by Richard Silsby

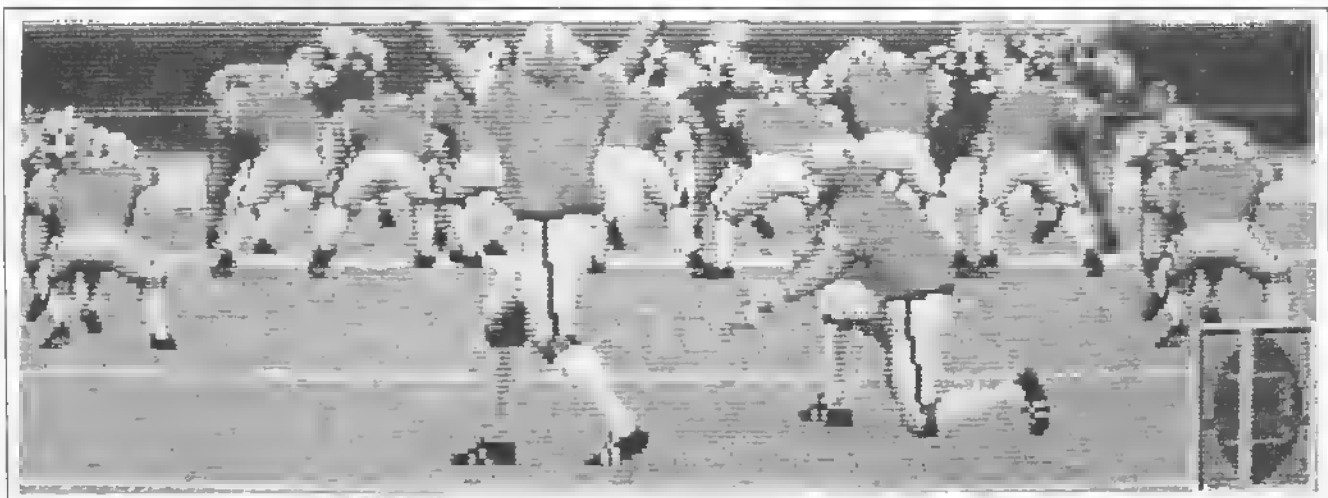
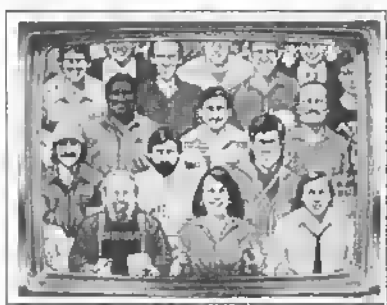
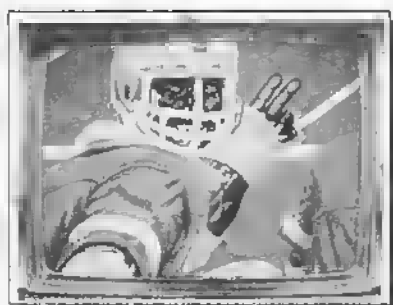
AMIGA

THE BATTLE field, called a "gridiron" because of its resemblance to the metal cooking grill used to cook meat, is 100 yards long, divided into 50 yard long territories. The object is to score more points than your opponent. What could be simpler!

To the average Australian, American Football is a game that is pretty hard to understand compared with Australian Rules (aerial ping pong), Rugby League and Rugby Union. I found that American Football was hard to understand, whether I was watching the pro's in the NFL, or

stumbling my way through a computer game.

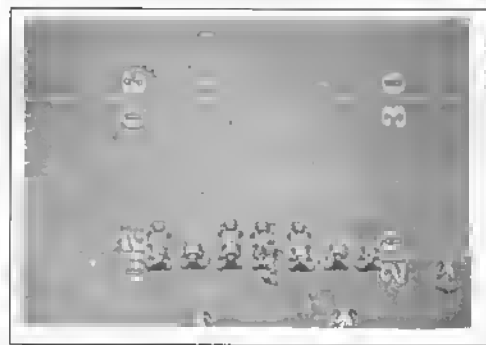
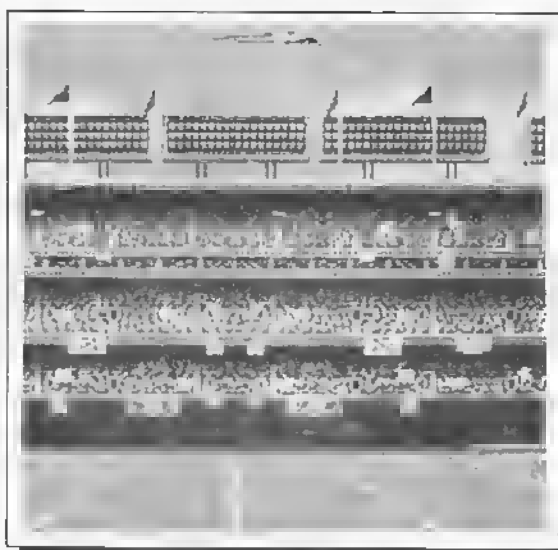
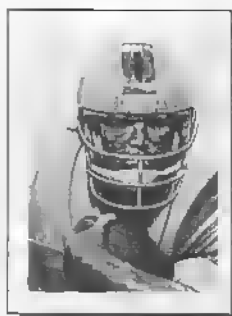
One of the first things that puzzled me about the game was why is it that a game with a length of one hour broken up into four 15 minute halves, can go on for as long as four hours including breaks?



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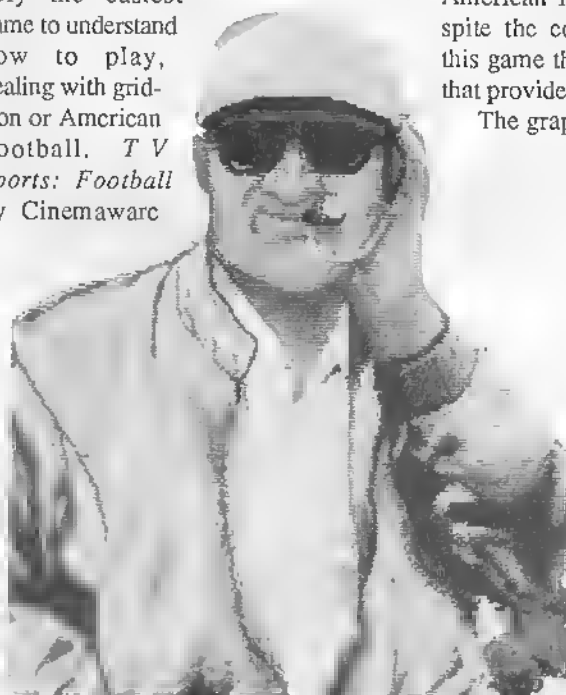
Clicked on Games

Clicked on Games



The next thing that puzzled me was why does one team take enough players to a game for about three full teams? The answer is they put one team of players on the field while the other players are waiting on the side lines. Then as soon as that team loses the ball they get taken off the field and another part of the same team comes on.

I'm not going to show my ignorance any more. As far as the computer game play goes, this is probably the easiest game to understand how to play, dealing with grid-iron or American Football. *T V Sports: Football* by Cinemaware



is just the game for beginners.

The manual is designed as an instructional tool for first timers, which starts with a historical perspective on football, with a section covering the rules and goals of the game. If you're already familiar with the game of football, you may want to go onto the sections on strategy and game plans.

As a beginner myself I found it essential to thoroughly read the manual. Many of the complex terms unique to American Football are explained. Despite the complex technical points of this game there are many other features that provide light entertainment.

The graphics are an absolute delight

to watch. Especially the facial features of the commentators when passing remarks during the game. Sound effects and music were great, especially the crunching of bodies in a diving spear tackle.

In all, this is a great game, whether you are a beginner or a natural at football. The unusual aspect is that it will keep you involved because football is not just a game of strength and power. It is very much a thinking man's game and could be likened to playing a moving chess match. So if you want a game that you can really get involved in, or a game that is worth getting just to watch the exhibition, *T.V. SPORTS: FOOTBALL* is the game for you. ■

Review copy from YPA (02) 899 2277
RRP Amiga \$69.95



MARS SAGA



by Michael Heathrow

ELECTRONIC ARTS are one of the leading games producers in the industry for one important reason - selectivity. They know how to pick good people for their production department and to give the buying populace out there the best for their bucks.

Mars Saga takes place in 2055, and that is not that far away. So let's see what is going on hence, on the planet that is just outside the Earth's local phone call area.

In this year, Mars is a prison colony and you are stuck here. There is one way to get off this asteroid hell, that is to accept a mission.

The mission is to figure out what happened to Proscenium, the new outpost that has fallen mysteriously silent.

Mars Saga is a fantasy role-playing game. Humans have colonized Mars with convicts in order to mine the planet for its valuable and greatly needed minerals. Like other fantasy role playing games, you create and control characters that explore the computer's fictional world.

The object is to try to develop your characters in various ways - increase their abilities and wealth, for instance. Then, you try to complete the task, which is to find out why all contact has been lost

with Proscenium, the farthest outpost on Mars. Success depends upon good logic in combat, using your character's skills to your best advantage and a touch of sleuth in unravelling mysteries.

In your first incarnation you are Tom Jetland, a roguish individual who's a little shy on credits. You find yourself in a bar in Primus, the first city built on Mars. Here you can recruit people to help you get to Proscenium.

If not very many people want to join your party in the beginning, don't sweat it, it's okay. As you gain experience, your reputation grows and more characters will want to join up with your group. If creatures get the best of you (literally) and you need more recruits, head to the nearest bar, restaurant, lounge, barracks or computer magazine editorial office and find them there.

Once you step out into the city of Primus, there is an automatic map that lays out the areas you visit. This auto map is on Window 2 on your screen. Use the auto-map legend on the Command Summary Card as a guide to the icons on your screen.

When first beginning the game, don't be in too much of a hurry to rush out to the planet's surface or another city. Stay in Primus and map it out. The first site contains a lot of valuable clues.

But when you are set to go, you will need some useful items to search the planet of Mars. Things like vacuums that convert the planet's atmosphere into breathable air. To buy these things, you'll need experience and credits.

In the first couple of games, I was able to recruit a rather rotund woman with big biceps and of the age of 25. I got her out of the ex-marines category and she was quite willing to join my contingent of one and cruise out into the sunset on the way to Proscenium. But that was all the recruits I got in that bar and I was off, as Tom Jetland, with one popgunish .22 pistol and a couple of fists - and Greta.

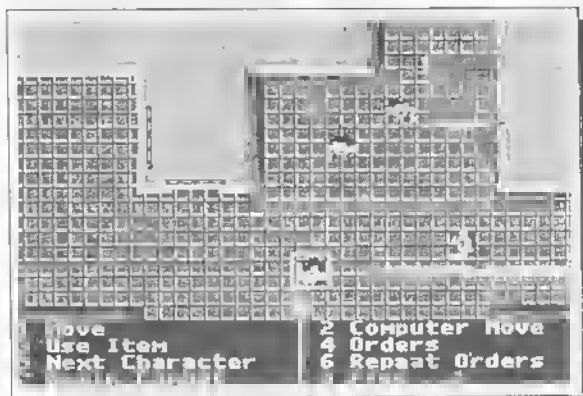
In the course of the first explorations you meet up with dangerous characters and the computer prompts you asking if you want to go into combat with these guys or not - I did, and I kept fighting till I killed both Jethead and Greta.

Advice here is to keep exploring, get as far along into the game as possible and do like your mother said, don't get into any fights. Build up your stamina and that of your team mates, collect good weapons and fine tune all your skills.

Mars Saga will take years to play and become a healthy member of your collection if you are into such games and what happens out there north of the sun in 61 years' time.

Graphics are basic, we're not seeing anything fabulously new or wonderful here, and music is also as uneventful as a Willie Nelson concert. Although the action is very methodical and staggered, in screens that scroll from all sides of the monitor depending on where you cursor yourself to on the joystick, when it comes, you get to hone in on the more dexterous of your manipulations.

If you want involvement and you want to spend a lot of time off the planet then I think you will enjoy *Mars Saga*.



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MicroProse Soccer

by Eric Holroyd



THIS COMPANY'S releases are just getting better and better! I had a look at their *Red Storm Rising* just last month and thought it was great, now along comes a sports type of simulation which grabs me even more. It's so good to play, the joystick control is accurate and much effort has obviously gone into programming the game of *Soccer* faithfully.

It comes on a single disk, complete with 'Paranoid' copy-protection, and I think there must be a fast load routine too.

I had to first of all disable my Cockerroach TurboRom then enter 'Load"0:*",8,1' to load the games on either side of the disk. I ran both sides on the C-128 and it all loaded and ran OK, with my feeling there being that if it'll load on my office 128 it'll load on anything (my 128's a temperamental beast!). Once loaded in, I had a ball (excuse the pun) and thoroughly enjoyed myself.

The game of European Soccer is on one side of the disk and American Six-a-side is on the other and I played both games quite a bit. Both play very well and there's sufficient variety to hold the interest for a long time to come.

To start with, there's a Control Panel menu where various things such as match length, music during game, colour or B/W monitor, and a whole lot more can be preset. Also, as there's a facility to save and reload matches you choose tape or disk as the device for that. Enter your name(s) in the Name Bank too, so that the computer refers to you by name and not just as Player 1 or Player 2. I liked this feature as it makes playing against the computer feel more personal.

You'll select team colours for each player too, with the computer refusing colours too close to those already in use.

That way there's no confusion out on the field. Thoughtful, eh?

This one is streets (even whole highways!) ahead of previous soccer simulations in that you're playing from above in a sort of plan view of the field. Your 'man' can kick and head the ball in a variety of ways using various joystick movements which allow him to kick a straight volley, do a left or right 'banana shot' (ball curls left or right), make a chip shot, or even do a very good impression of Pele doing a backwards over-head kick. If he's got possession of the ball all you have to do (!!) is get him to dribble it through the defence then kick it (firebutton) into the goal.

The other team's defence in a one-player game is well programmed to get the ball from you, and in a two player game (I liked this option better personally) your opponent has to get his man to tackle you and get the ball. Watch out for sliding tackles, they're very effective.

When the ball is kicked clear your nearest player to where it lands starts to flash to show that he's the one you're now controlling. Get him moving quick before your opponent steps in with his man. If you score a goal the word "GOAL" prints right across the screen and the crowd goes wild with applause. The screen then goes black and white whilst a mock 'videodisk' is rewound and the scoring of the goal is replayed. A big letter 'R' flashes in the top corner to show you that it's a replay. Just like the real thing when you're watching the match on TV.

As in all sports the teams are at the mercy of the weather, and I was amazed to see lightning flashes and raindrops falling on the turf in one game I played. There was thunder too, but the teams played on. A very nice touch which added



a great deal to the game's atmosphere. 'Weather On/Off' is one of the preset options on the Control Panel screen.

The accompanying manual contains all the game instructions plus the Rules of Football as laid down by FIFA (the Federation Internationale de Football Association), the rules of American Six-a-side Indoor Football and a history of the World Cup. All you ever needed to know about Soccer in fact.

Also in the package was a complete catalog of all the MicroProse simulations marketed under their joint venture agreements with Cosmi and Origin. It's quite a list and a handy little book too.

MicroProse specialize in all types of war and sports simulations and seem to have formed alliances with various software developers. The development in this case was by Sensible Software and I think they've done a marvellous job of putting a good Soccer game onto the 64. They've certainly done some excellent graphics and music, and I loved all the extra little touches they added in the name of realism.

This should appeal to armchair sportsmen and gamers in general. It certainly had a lot of appeal for me. ■

Review copy courtesy of
Questor (02) 662-7944 RRP C64
disk \$59.95 cass \$49.95

DOUBLE DRAGON

AMIGA

by Tony Smith



IT WAS with some trepidation that I loaded *Double Dragon* into my Amiga. After reading Phil Campbell's *Capone* review, I wondered about unleashing my two impressionable sons into this world of mindless violence.

But I feel perhaps we sometimes overreact when the 'anti-violence lobby' sprouts its views regarding violence and its influence on the young.

Perhaps I'm getting old (37?). Or maybe I can remember when I was young, but it's always been goodies and baddies, cowboys and indians, cops and robbers, humans and aliens and each theme is built around one idea, "get the baddie!". My sons seem obsessed with the same theme - they get each other, "I'll rip your arms off, you ferret!", "you're dead this time fatso!", "it's my go, you zit-faced porker!"

The advantage of *Double Dragon* is that two can play it. When my sons first played "Double Dragon" they were like a precision team, it was the first time for weeks that they had stopped fighting.

The theme of the game is violence, get the other guy (or gal) before they get you. Kung Fu Master Billy Lee, with his twin brother Jimmy, are out to rescue Billy's girlfriend from an evil street gang.

Use any weapons you may come across, a

whip, a baseball bat, throwing knives, even a gun. Pick up barrels or huge rocks and use them to bash your opponent into oblivion, just as long as you beat them. With two-player mode, the odds are improved but there are more opponents.

My blokes were like commandos stalking their prey, "you go first and I'll get the other bloke", "let me get the whip", "you knock the dude down the hole and I'll drop a 44 on the big bloke". The peace was delightful, interrupted only by the anguished cries of the dying video images as they perished and were then replaced by hordes of others.

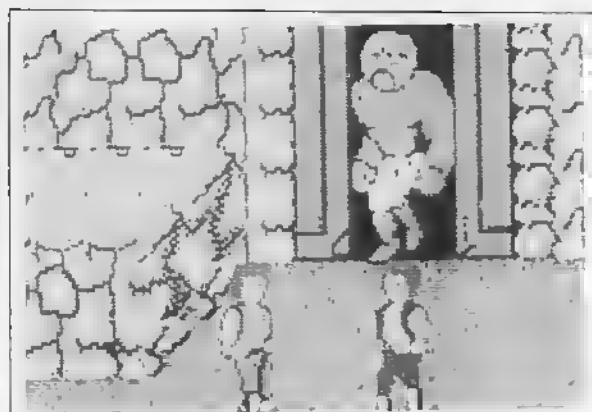
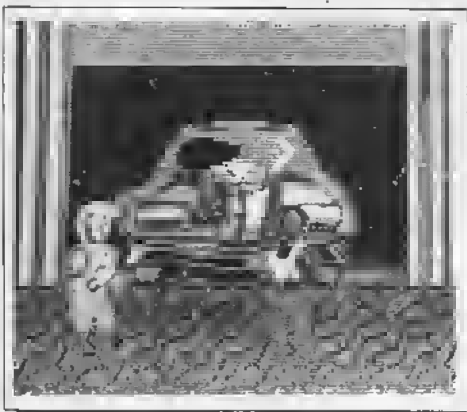
The game itself is reasonable with all the qualities we have come to expect; bright, well-drawn graphics, excellent sound and effects, playability, smooth

scrolling and very professional finish. The animation is a little sludgy. Baddies are varied with both sexes and several races being represented.

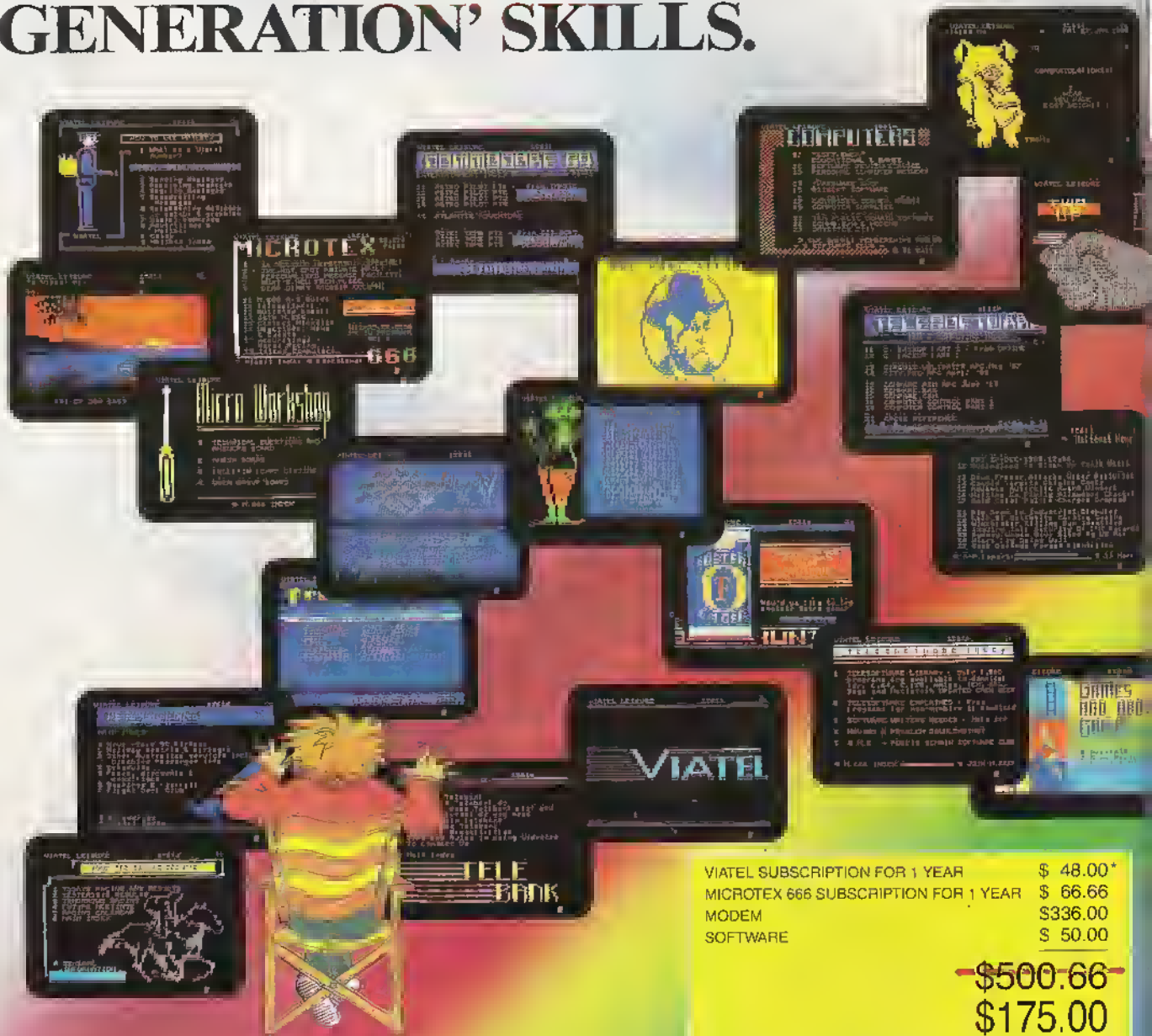
A play-on option allows even the most pacifist player to reach the far ends of this game, though it is extremely difficult to get far on the lives given. Fight sequences are never boring, there are so many possibilities and the enemy seems to have a mind of its own. Movement is controlled by the joystick and is very responsive, animation is smooth with the characters moving in and out of the screen as well as left to right.

Double Dragon comes as a welcome addition to the genre of martial arts simulations and being set in an urban area, makes a change from the usual temple/lakeside scenes.

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Elite

by Tony Smith



AT LAST *ELITE* has arrived for the Amiga, and unlike *Outrun* has been worth the wait.

Solid 3-D graphics, detailed solid ships, colourful graphic shopping screens with the weapons and products clearly illustrated. Bar graphs at the side of the pictures to show how much produce is available and prices under the goods to make selection, which is accomplished by either the mouse or joystick, easy.

Examining planets within range is also colourful and pleasant with cleverly drawn aliens displayed along with the size and nature of the planet. All graphics are solid and the explosions are very realistic with bits flying everywhere, like *Starglider II*.

The 64 version of *Elite* tied up a considerable amount of my time and resulted in a rating of 'dangerous' and sometimes 'ingitive' so it was with great confidence that I selected 20 tons of food and proceeded to fly to a nearby world which was ravaged by tree grubs.

The takeoff is easy and the jump to hyperspace was accomplished without any drama. On leaving hyperspace, a small jump was accomplished before 'CONDITION RED' was announced and I prepared for battle.

The controls all fell smoothly to hand and I quickly set my missile targeting to 'on', backed off the speed and turned to face my adversary. Swinging the craft around I saw a pirate coming at me. Confirming this with a quick ID check, I sent a couple of blasts away as the missile targeting system informed me that the target was locked on.

If by chance the other ship was a Thargoid, an insect race with their fear glands surgically removed at birth, I

would need the missile soon, and keeping one targeted saves time later. Ten or fifteen quick shots disposed of the pirate and I was awarded 12 credits for the kill. A couple of asteroids blasted for 0.5 credits each (it's not good money but it keeps the space lanes clear) and a quick local jump brought me within range of the space station.

The space stations always face the planet and here lies the first really hard part. With a docking computer, it is simply a matter of flying into the safe zone around a station and turning it on. Unfortunately they cost 1500 credits and I only have 100 so it has to be docked the hard way.

This is accomplished by manoeuvring your ship into a position facing the opening and square to it. Easy, eh? Next comes the tricky bit.

To provide gravity, these stations slowly revolve, so not only must you keep your ship on course for the slot, you must also rotate to match the speed of the station before smoothly entering the landing zone. Try turning around after a normal launch and flying straight back in, you'll soon get the hang of it.

My lights have been burning past 1.00 am since *Elite* arrived and I am as enthusiastic about it as I was for the 64 version. It is the first game for the Amiga that I cannot find a fault with, and my only problem is trying to build up enough credits for a better laser, a larger cargo hold, an escape capsule, mining la-

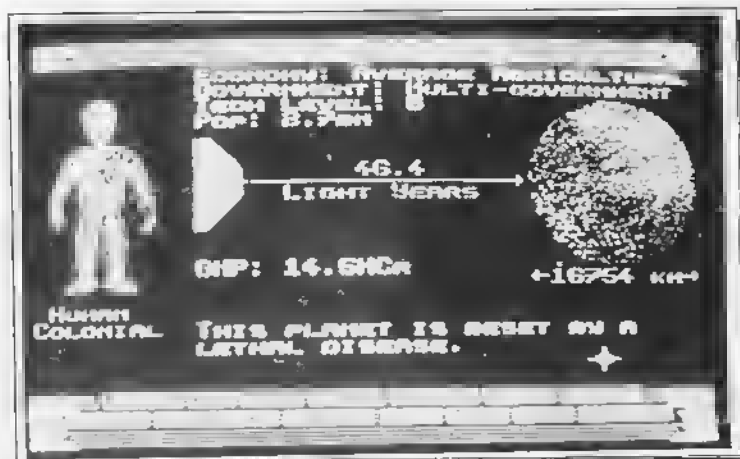
sers, better shields, a CD player, mag wheels, the list goes on. Almost like real life.

There is no sound track, except when under the docking computer or when you are dead, but a sound track which you will be listening to for months would get boring no matter how good it is. Besides, the peace and quiet of space is a welcome change from the noise and tension of a space battle.

Elite offers everything to a budding spaceman. You can be a goody-goody and just carry 'straight' cargo, or a pirate and carry other cargoes such as slaves or drugs. If you are a budding mercenary you could try taking weapons to anarchistic worlds but be prepared to fight your way right up to the station.

When you have obtained updated weapons you could become a vigilante and go chasing pirates for rewards and bounty, or try hanging around in space near the jump zones and picking off any poor unfortunates as they emerge from their jumps, blasting them and then scooping up their cargoes with your scoops. With literally hundreds of planets and several galaxies to choose from *Elite* offers the gameplayer tremendous scope and variety.

The game which became a classic on the C64 will once again become a classic on the Amiga. Rush out and buy a copy, you won't regret it.



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ZAK MCKRACKEN

and the Alien
Mindbenders



by Ted Beck



I KNOW A guy called Luke Redekis. It's kind of the same. All these Lithuanian names bestowed upon an infant at the time of his planetary arrival. I cannot fathom why any mother would even possibly conceive the idea to bestow such a theme upon her kid. What is "Zak"? It sounds like something they breed up at the Dubbo Western Plains Zoo - a cross between a zebra and a yak.

Anyway, the Zak McKracken we have here is a tabloid reporter on the case of the Alien Mindbenders. There are all sorts of weird and wonderful characters in the game and you will be quite interested to meet any one of them, in fact, all of them.

The lead: From McKracken's newspaper the *National Inquisitor* of March 29, 1989. The headline, "Worldwide Stupidity Epidemic Linked To Space Aliens in Phone Company." This report was lodged in San Francisco.

Somehow, a mysterious force emanating from phone lines apparently has the power to turn people's brains to mush. I really do not know how this can cause so much fuss and make it to the papers, television has been doing the

same thing for years! Now, computers are doing it to you in the form of video games! Arrggghhh!

Large scale lobotomies happening between your earholes and Zak McKracken is the dude with a microphone and a notepad who is sent out to cover the trash story! And the worst part about it is that we have to follow it with him - or do we? Only if you want to. And apparently, my job is to tell you if you want to. I, and even Farrell, says you just may want to do that. Oh, yeah.

Because, *Zak McKracken* is one of the best word command games around, actually, that we have ever seen. Is that some heavy sweat to lay on you or what?

Let us see how.

The thing we have to remember here is that old Zak McKracken is not exactly a reporter of the highest calibre that is known to modern journalism. They employ low-grade rag writers of the most abominable kind - sort of like the magazine you are now reading. Present company excluded, of course. Zac works for a company and a newspaper that covers the more sensational hot items that are conjured up from the fermented fantasies of the feeble and the fretted fraternity.

This is America. They love this kind of stuff, and we, as the historic players some eight years back, are wallowing in the electronic trash McKracken is employed to research. Things like two headed squirrels and Alien Mindbenders.

We open to the scene in the office. And what is really unusual is that the game, presented on a double sided disk, takes up the whole first side just to introduce the characters and story plot to us. McKracken getting hassled by his editor, McKracken in his bedroom having bad dreams about the myriad twisted and debauched series he has been forced to cover during the length of his career.

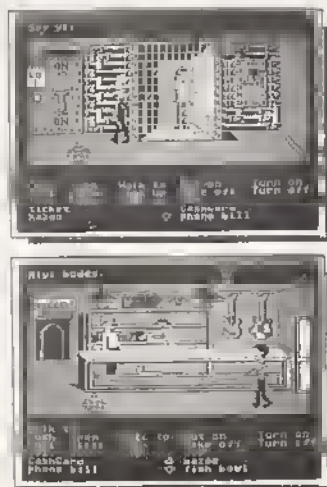
On top of your screen are message lines. Here you monitor every word spoken by all the characters in the game and game related messages that are conducive to successfully accomplishing the game in its entirety.

Below this is the animation window, which is the largest part of the screen and where all the action takes place. We are presented with a "camera eye" view of the proceedings, inside rooms, on the street and so forth. For the Commodore, the graphics in *Zak McKracken and the Alien Mindbenders* have presented nothing extraordinary. But the format, the theme, the novel presentation of the animated adventure is certainly worthy of acclaim.

Your attention is drawn to the "viewer" type pointer. This is an extremely agile and manipulative indicator that you can zip around the screen and "land" on objects, people, things, word commands, everything. They will instantly become highlighted and activate themselves according to your instructions. Good effect.

The Sentence line directly below the animation window is used to construct sentences that tell the characters what to do. The sentence consists of a verb and one or two nouns or objects. An example of this kind of a sentence may be "walk to Golden Bridge." But Zak is going to come back to you saying "I think that is a little too far", so you may have to get on back down to Fourteenth Street and take a SFO 52 bus to the Bay for just such a journey. Connecting words like "on" or "with" will be automatically inserted by the program.

Verbs must be selected from the words in the columns below the sentence line. All the verbs shown can be used. At first, it may take you a little bit of time to exercise your limited control in this region. Always, it has been the case that



in word command adventures the urge to instruct the computer to "skip the locked door and parachute out the window to the street" is much better than aggravatingly slow, methodical procedures, play by play every square foot of the way.

However, new verbs do appear in the base columns as the game progresses which is quite a beneficial feature. There are times when writing on a wall and buying a cheap haircut just will not be conducted with "open and see" phraseology.

Keep a close eye on all your inventory below the verbs. Each character you control has his or her stock and supply. At the beginning of the game Zak starts with only one object. When a character picks up or is given an object during the game's play, the object's name is added to the character's inventory. There is no limit to the number of objects a character

can carry. Actually, it is advisable that you take all you can get along the way because you never know when certain things may come in handy. This is kind of like a woman's purse - they just have that intuition that somewhere along the line, some day, somehow - they are going to find a need for that machete and a room temperature bottle of Turtle Wax.

When scrolling around the game, you have the ability to walk both left and right as long as the particular phase of the game you are in allows for it. You cannot walk forward as in off the screen into your lap, and walking back inside opens you up to another frame only if it is within the location you have wandered to.

Included in the game, something that is becoming quite common of late, is additional documentation. There is a simple, cheap white newspaper inside the

box, with green ink and tacky illustrations. But this is where you are going to find a lot of clues to solving the mystery of the mindbending escapades of the alien freakazoids. Additionally, the booklet of instructions provides some helpful hints to get you into proper gear and provide you with a suitably fine amount of working knowledge.

The music and the graphics as noted by the observation of a whole half side of a five and a quarter being taken up just to introduce the game is ample evidence of the good work that has gone into making the "accessories" part of the package a welcomed contribution. ■

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Preview: Deluxe Paint III

by Dennis Nicholson



When Electronic Arts first released *Deluxe Paint* for the Amiga computer in November 1985 it became an instant success. The graphics software achieved greater than 50 percent market penetration in the United States of America alone.

No other paint program has come close to *Deluxe Paint's* power combined with ease of use. The software has constantly been voted the favourite graphics package by Amiga users year after year. It is considered by artists to be the standard against which all other paint packages are measured.

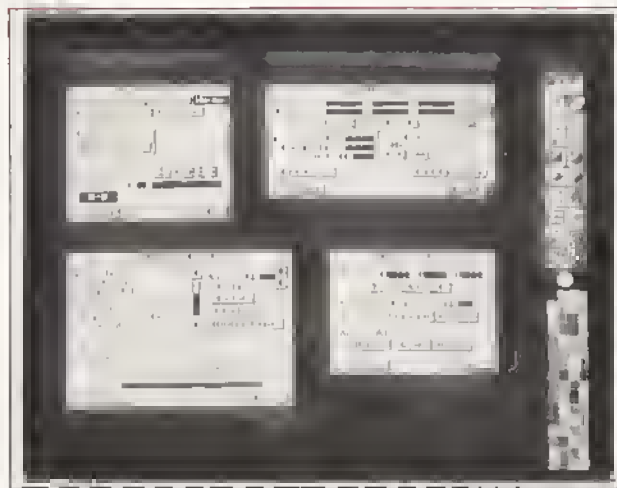
Now comes *Deluxe Paint Three*. This is no ordinary update to *Deluxe Paint Two* as it has many new significant features, the most prominent being the addition of animation capabilities. Before you proceed further with this article it may be wise for you to check your ready cash supply, because after you read it you will feel an impulsive urge to rush out and purchase this latest release.

Deluxe Paint III - what's so new?

The program has increased in size from 190K to 247K and includes over forty new features. So let us begin at the beginning.

On initial boot up the screen resolution/colour requester appears and two new selections are made available. A new colour mode called Extra HalfBrite will give you a sixty-four colour palette in Low and Interlace resolutions. An Overscan button gives you the option of turning an overscan screen on or off.

If you still use the NTSC version of the Amiga 1000 you will have no wor-



ries with PAL versions of the program as *Deluxe Paint Three* automatically adjusts to PAL or NTSC Amigas and configures the screen sizes accordingly.

As an example of some screen sizes the Low and High resolution PAL and PAL Overscan screen sizes are listed below.

PAL Low Resolution

Standard	= 320 x 256
Full Page	= 320 x 340
Overscan	= 352 x 290

PAL Overscan Low Resolution

Full Page	= 352 x 340
Overscan	= 352 x 290

PAL High Resolution

Standard	= 640 x 512
Full Page	= 640 x 680
Overscan	= 704 x 580

PAL Overscan High Resolution

Full Page	= 704 x 680
Overscan	= 704 x 580

Once the work screen is opened nothing seems visibly different from earlier

Deluxe Paint releases, except for a small alteration in design to the freehand line selector found in the tool menu on the right hand of the screen. I will get to that later, first let us have a look at the pull-down menus along the top of the work area.

The picture menu

The LOAD/SAVE and DELETE requesters now display all your available disk drives, such as DF0: DF1: DH0: DH1: and RAM: It automatically adjusts to the number of drives accord-

ing to your system's setup. A NUMBER OF FRAMES option allows you to type in a figure for any animation you may wish to do.

A FLIP sub-menu has been added for turning a full screen image either vertical in the "Y" direction or in the "X" horizontal position. The ABOUT sub-menu now displays the available Chip and Fast memory as well as the Maximum Block memory. It also shows the current ANIM Size and ANIM Brush Size in bytes. The only other minor alteration in the Picture Menu is that the Color Control sub-menu has been renamed to CHANGE COLOR.

One interesting feature found when using the SAVE picture function occurs if you are saving an image that has previously been stored with the same file name, a system message pops up asking you to confirm that you wish to overwrite the original. This is a very handy reminder when you want to update older files without accidentally overwriting the originals.

If one resolution picture is loaded into another resolution screen, for example

low resolution into high resolution, another system message asks "Do you want to change format to that of file?" If you click on the YES button then the high resolution screen is changed back to low resolution prior to the picture loading.

If you click on the NO button then you will be asked if you would like the low resolution picture to be reformatted into the high resolution mode. This latter option allows for very quick screen image resolution changes.

It is even possible to bring a standard sized image, such as a 320 x 256 picture, into an overscanned screen and immediately have it stretched to 352 x 290 to fit the larger area. This effect is almost immediate and very effective without any noticeable loss in picture quality, though fonts can be enlarged out of proportion.

The brush menu

The DELETE Brush sub-menu has been removed and replaced with RESTORE Brush. Another new sub-menu is called EDGE and it lets you OUTLINE or TRIM the edge of a current brush, that is, add or delete a one pixel width edge around the brush.

CHANGE TRANSPARENCY is a new addition under the CHANGE COLOR sub-menu. The Brush Handle sub-menu now contains PLACE along with Centre and Corner. If you wish to alter resolutions while holding a current brush there is no need to save the brush as in earlier versions, the program will now remember what brush is in memory.

The mode menu

Has two additions, TINT and HBRITE allowing for extra imaging effects. Selecting the HalfBrite mode will let you place transparent shadows behind any brush, such as a title to add a three dimensional look to it.

The effects menu

This remains unchanged except for a new Perspective Settings requester where the X, Y and Z screen/brush coordinates can be added. With versions of *Deluxe*



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Paint it was not possible to completely fill an area when Perspective's FILL SCREEN menu was selected, this resulted in a border remaining around the final image.

The problem has now been overcome, and it is simply a matter of choosing any screen size, angling a brush and clicking into the work area. The entire screen will be filled to its full width regardless of the screen size. This is excellent for creating full overscan images for desktop video work.

Perspective's anti-aliasing (smoothing) algorithm has been improved, thus giving an increase in rendering speed when in the Low or High anti-alias mode.

The prefs menu

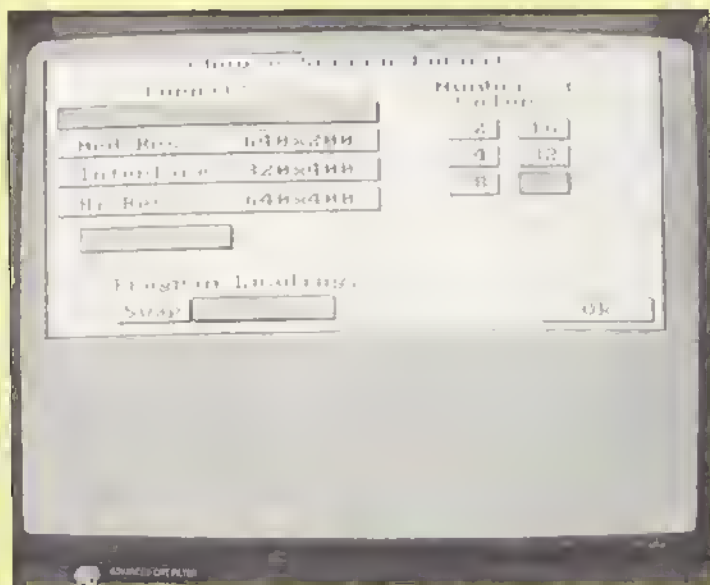
This contains two new selections, Auto Transparency and No Icons. The latter allows the user to save images without an associated icon.

The anim menu

This new feature to *Deluxe Paint Three* holds some very pleasant and powerful additions. It is now possible to animate brushes in two or three dimensions, in all resolutions and in real time. Using the new animation Settings requester you can type in various X, Y, Z coordinates and let the software take over and record the complete animation.

The animations can be stored in either the standard ANIM format, or the Expanded format, which saves each frame as a complete IFF image. Using the ANIM format you can replay the animation in *Deluxe Paint*, either forwards or backwards, or in ping-pong mode, that is, nonstop forward and reverse. The Show-ANIM utility created by Aegis Development for their video software programs will also display the animation.

It is no problem to bring in a previ-



ously completed ANIM file and step through it frame by frame to make any alterations or deletions. Used in conjunction with the perspective mode you can have brushes zooming all over the place, twisting, spinning and turning, even flying off into infinity.

Background IFF images can be included as the animation performs in the foreground. If used with the STENCIL mode it is possible to have your animations flying behind sections of IFF backgrounds.

A PREVIEW command in the animation requester gives you the opportunity to test your animations at any stage. An EASE-IN and EASE-OUT selector lets you type in the number of frames you would like the animation to speed up and slow down at the beginning and end of the brush's trajectory.

TRACE mode will draw each brush movement onto one screen to allow you to look for any misplaced moves. Individual brushes can be saved, moved, deleted and amended.

As an example of what is possible, imagine you would like a two dimensional title to spin around a three hundred and sixty degree axis. You simply make up the title from your preferred font, pick it up as a brush, select fifty frames as the number of animation frames required,

type 360 into the Y coordinate box and click on DRAW in the animation Settings requester.

Deluxe Paint Three will then draw each frame, twisting each one around the Y axis until it reaches frame number fifty. The animation can then be saved or immediately played back by hitting the play key on the keyboard. When used with anti-aliasing clicked into the High mode the end result is very impressive.

The tools

The only paint tool to be altered in any way is the continuous free-hand line mode, as it can now be used in two different ways. The first is literally to draw a continuous straight line!

Second mode allows you to create a continuous line and when the mouse button is released the shape is filled with a currently selected colour or range of colours, or even a brush.

Many new keyboard commands have been added to help speed up your work. Two examples are SHIFT-X and SHIFT-Y, when pressed these will increase the size of a selected brush in either the X (horizontal) or Y (vertical) directions. Other keys are allocated to the animation features and will have you creating whizz-bang images in no time at all.

Deluxe Paint and *Paint II* are considered by artists to be the standard against which all other paint packages are measured. With this release it is now going to give many animation packages a run for their money.

Published by Electronic Arts, PO Box 7530, San Mateo CA 94404 USA. Distributed by ECP (075) 96 34 88. Price to be announced.

Dennis Nicholson is the Editor of *GRAPHICS-PALETTE*, the desktop video disk-zine for the Amiga. ■



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Mastering CLI



A review by Eric Holroyd

Now here's something I wish I'd had about eighteen months ago! If only it had been available then it would have saved me a lot of head-scratching and manual-thumbing when I first started to try to understand the Amiga's CLI. Now that I've got it, it's got a permanent place in the front of my disk box and is getting plenty of use.

Using the CLI (Command Line Interface) simply means typing a command in a window to tell the Amiga what to do next. This is the alternative to the "point and click on the icon" operation which is so fascinating to the new Amiga user.

I don't dispute that the "windows and icons" setup is a terrifically easy to use system. But experienced Amiga users who like to get to the heart of things and do a variety of computing tasks easily and quickly all work direct from the CLI.

For a start, you don't need to load your full WorkBench disk. Simply stick it in the drive and hold CTRL/D to enter the world of the CLI. You'll see the prompt `l>` and a flashing cursor awaiting your command.

There's an entire range of these commands built into AmigaDOS and all you have to do is learn how to use them. This is where *Mastering CLI* comes in.

Three-in-one package

It's a 3-in-1 package all on one bootable disk which comes complete with its own WorkBench. The first part is a complete set of instructions which displays on screen, or you may print it all out on paper for reference. This in itself is a commendable bit of work and I

wish more software developers would use the idea.

Then comes a complete tutorial on all aspects of using the CLI which has a user-friendly interface. Clicking onto this icon opens a window with its own drag-bar menu at screen-top. It's a menu covering no less than 48 CLI commands and selecting one of them gives you a complete rundown on how to use the command and what it does.

Examples for you to work through are plentiful and it's a very pleasant way to learn what all these mysterious commands do. Format, diskcopy, newcli, assign, why, type, path, etc are all well covered and are arranged alphabetically in this interactive tutorial. It's suggested that you work through them all to gain complete familiarity with your computer's operating system, and I personally found it well worth the effort.

Once you're reasonably familiar with the basics of the CLI and starting to

work in it, you're ready to use the third part of the package. This is called "The Assistant" and is a memory resident suite of Help Screens. I liked the way this was laid out too.

A window opens and displays the names of 21 of the most commonly used CLI commands and clicking one of them brings up a screen full of relevant info, its syntax and usage etc. Very handy it is too. Much quicker than looking it up in the manual or cheat sheets.

If you're working away on the screen and want to keep the Assistant handy, just click onto "Reduce" which shrinks the window right away to the top right hand corner with only two words showing. These are "Assistant" and "Enlarge". Clicking onto "Enlarge" brings it all back to full size again.

Although the instructions on how to use the Tutorial and the Assistant were able to be printed out, I was surprised to find that there was no option to make a hardcopy of the Help Screens. I suppose this might be said to defeat the object of Help Screens in memory but I sometimes like to have a printout to study in depth as my brain doesn't always want to understand something at the first reading (and I suspect I'm not alone in that).

With my newfound familiarity in CLI I had a look at the disk directory and found that there were two sub-directories named "H" and "D". These are both documentation directories and I found that most of the Help Screens were in "H".

To make a hardcopy of a Help Screen then, I first of all entered `"dir df0:h"` (without

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To print the first Help Screen on the "mkedir" command I entered "type df0:h/mkdr1 to prt:" Again without the quotes, and there was a mkdr2 file which turned out to be a second Help Screen. In both those examples I've presumed that the *Mastering CLI* disk is in df0: (the internal drive) and if you have it in a second drive you should of course use df1: in the command string.

RAM-disk

Booting on this disk for a computing session creates a RAM disk for me with its own c: directory and mini-library of commands available for instant operation. This is much better than having to wait for a command to load to memory (that's when you're likely to get a System Request to "put WorkBench disk in any drive" if you're trying to do something the Amiga doesn't recognize).

RRP \$64.95. Our review copy arrived courtesy of Computermate, (02) 547 8118.

There's some things that are better left unprinted, at least, in a paper magazine. And there's some things you just can't put in a paper magazine, like a working program, or animated picture.

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All the programs included come with printed documentation. There are no READ.ME files to look for, just hard copy ready to file away, and refer to when you need it. Amiga-Live's programs disk is a good way to collect quality software quickly, and cheaply, if you prefer not to sift through the many Fish Disks looking for those programs that interest you. On our disk, we only put the cream of the rest.

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128 Corner — Art for the 128

by Harry Waterworth

BEFORE WE get into this month's article, a little piece of news from the United States. Getting assistance or information from Berkeley, the creators of GEOS, is like the proverbial blood from a stone routine. However, Berkeleys advised me of two items this week that will be of interest to 128 owners. Bad news first as always, and that is that Berkeley will NOT be releasing a dedicated 128 version of *geoPublish*. The good news is that the version 2.0 update recently released for GEOS 64 should be available for GEOS 128 by the time you are reading this month's magazine. Registered GEOS 128 owners should be eligible to send to Berkeley for an up-date at a reduced cost, but don't hold your breath waiting.

Now, back to business. This month, I thought we might take a look at a couple of art programs that were recently delivered to me. They are both very different in the way they work and what they can do, but both have an appeal all of their own.

Diskart

The first program is simply called *Diskart* and is available from Those Designers in the USA. *Diskart* is a collection of clipart designed specifically to be used with Geos. There are twelve disks available in the collection, all filled with pages of ready-made graphics to drop into your Geos programs.

There are two excellent features about *Diskart* that stand out immediately.

The first one is that the graphics come as Geos files, and can be pasted straight into a *geoPaint* or *geoWrite* document. This cuts out the necessity (and of course the expense) of buying non-

Geos graphic programs and then converting them to Geos. Secondly, at just US\$8.50 per disk, I feel they are a real bargain.

All of the artwork is top-draw stuff, and it is simplicity itself to use. As you can see from the collection I have assembled, you would be hard pressed to find much better art for any computer, so all of you Amiga owners out there - eat your hearts out.

If you're one of those folk who can't draw a straight line with a ruler, then stick with me, cause this is the program for you.

Starting off

The first thing to do with *Diskart* is to transfer the files you want to use onto a work disk. The only two Geos files essential on your work disk are *geoPaint* and of course the Desktop file.

Having done that, you are ready to start 'Clipping' out the relative drawings from the pages of the file you have chosen. Unless you just want one drawing to drop into a letter or project you are working on, I suggest you clip out the drawings you will need from the file you are using, and store them into the *Photo Manager* utility. This way, you can select many of your favourite drawings from different *Diskart* files (which may be on separate disks) and store them all on the one disk - for quick access at a later date. In the example page shown, all of the drawings were placed into the *Photo Manager*, together with six others that aren't shown here, and the *Photo Manager* file was still only 10K in size.

Should you wish to edit a drawing to suit a particular need, copy it into a *geoPaint* file, and do your editing there. After you have completed your changes in

the *geoPaint* file, then you can store it in the *Photo Manager* or paste it directly into your document. Never edit the drawings on the original disk.

As with the art you create yourself using *geoPaint*, Clipart drawings can be dropped into *geoWrite*, *geoPaint*, *geoFile* or *geoPublish* documents.

Special effects

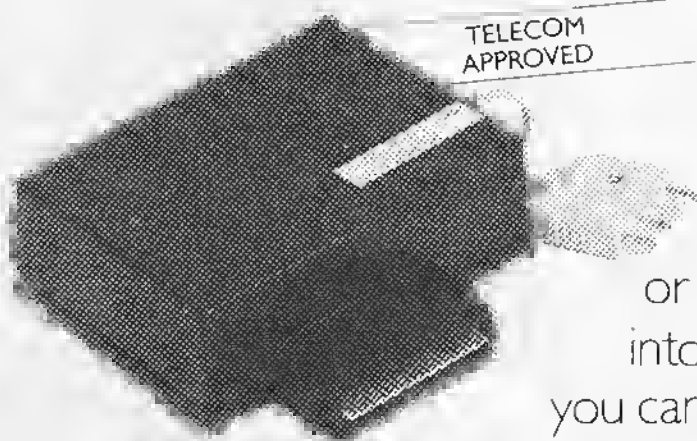
A lot of fun can be had by dropping the drawings into a *geoPublish* page. Because of the way in which *geoPublish* works, you can define the whole page as an area in which to import a bitmap image (or graphic) and you can then select to have the drawing either scaled to fit, or stretched and scaled to fit.

In the layout shown, I used a *geoPublish* file as opposed to a *geoPaint* file because of the superior way you can place and move the drawings around the page in *geoPublish*. In *geoPaint*, if you copy a graphic and then move it to another position on the page, the edit box surrounding the drawing deletes any object that it covers. This stops you from placing irregular shaped objects close to each other, but I am hoping version 2.0 of Geos 128 will attend to this problem.

All in all, *Diskart* is a very good product, and one for all Geos users, 128 and 64 alike. A number of the disks have a theme to them such as wheels and wings, which as the name suggests features cars and planes, but there are stacks of other goodies as well. Some other themes included are foodstuffs, boats, holidays, maps, *geoPaint* tips, banners, houses, gardening, tools, make-a-face and so the list goes on.

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Sketchpad 128

The next art program also hails from the good old US of A, but this one is a dedicated 128 program with many unique and powerful features. Unlike the previous program, you have to do your own drawings with this one, and therein lies the fun.

Although *Sketchpad 128* is a stand alone art program, it can also be used to drop graphics into *Newsmaker 128*, the first 128 desktop publishing program I have seen. Both programs were written by the 'Whiz Kid' (alias Dave Krohne) and he has used Basic 8 to create his programs.

Sketchpad 128 does not require the 64K video ram chip upgrade for all of its features, but it would be a shame not to have it done if you own a 128 or an early model 128D. The cost is only around \$40/\$50, and the difference in the quality of the graphics is incredible. Without the upgrade, you would not be able to use the features in the edit menu, which I will outline later. Please note that the program requires an 80 column RGB monitor and a 1351 Mouse. It also supports two drives, either a 1571 or a 1581 (if you are lucky enough to own one of the latter).

This program is also unique in that it is not copy protected. As an avid Commodore user himself, the author has left his programs unprotected for two reasons. The first reason is to stop your drive head from being knocked out of alignment by some massive copy protection scheme. The second reason is to allow you to make backup copies and additional work disks for your own use (using one of the many copy programs / cartridges available on the market). Please don't abuse this gesture; the program is very reasonably priced, and we need to support all the 128 programmers we can find.

Features

Sketchpad has all of the usual features you expect to find in a quality art pro-

gram, and then some. You can draw with a variety of brushes; draw shapes; use text in your documents; create 3D solids; cut and paste; make mirror images; invert the drawing and that's just to mention a few. When you select draw from the main menu, you have a choice of fifteen different brushes to choose from.

One of the most pleasing aspects of drawing with *Sketchpad* is the ability to draw smooth curved lines, in fact better than any other art program I have ever used.

Also in the main menu are options to clear the whole screen, change your foreground or background colours, place text in the document (in the size you select) and fill enclosed areas.

Also included in the main menu is Options and when you select this, you are presented with a sub-menu with another list of (naturally enough) options. This is where you select the shapes you wish to draw with, including lines, circles, boxes, rays and arcs and you can select the desired thickness for all of these features.

3D Graphics

The options menu is also the place from where you can select to draw your 3D graphics. You are given the choice to create 3D drawings of spheres, spools, cylinders and even doughnuts. You can shade these graphics in either textured or halftone, pick your lighting effect from either normal or backlit and select your point of view from either vertical, horizontal or looking from the top. Using different sized spheres with different lighting and shading gives you the capacity to create fantastic 'Outer Space' effects.

There are a host of other sub-menus that enable you to complete a multitude of tasks, including the following:-

- use of a second disk drive to import other graphics (either graphics stored on another disk created with *Sketchpad*, or a *Print Shop* disk).
- the ability to be able to scroll your

picture to give an 'animation' type effect

- the capacity to enlarge an area to enable detailed pixel by pixel work

- a 'block fill' function that allows you to quickly fill a large area, and of course

- the print option to allow you to get a hard copy of your masterpiece.

You can also create an instant grid of any size you desire to assist with planning the layout of your drawing. You can erase the grid lines after you have completed the drawing if you do not want them in the final product. There is also a LOCK option that allows you to save your work from time to time so that your whole drawing is not wrecked if you make a boo-boo along the way.

Edit Menu

As I mentioned earlier, the edit menu requires the 64K video chip up-grade to operate. It is in the edit mode that you enter pixel edit; make your grids; do your block fills and turn the pattern mode on and off. If you lose these features, you would not be doing the program justice. A couple of features that would have been nice would be option to stop a printout in mid-stream (sometimes you just wish to print the top of a drawing to see how it will line up) and a kill button to enable a fill function to be interrupted.

How often do you go to fill in some shape only to discover that you have left one tiny pixel out of the outline, and then the fill starts to spread through the whole screen? Definitely wrist-slashing time when it happens at 2.30 in the morning and you have to sit there like a zombie waiting for the screen to fill so you can then press your undo button to get back your drawing.

Those two minor points aside, *Sketchpad 128* is an excellent program for all 128 users. It is good to see programs finally being written which bring out the full potential of the Commodore 128.

Coming soon is a look at *Newsmaker 128* and *Spectrum 128* which at last

gives us 128 freaks full 80 column desktop publishing facilities, with support for the mouse, the 1581 disk drive and the 1750 ram expander.

I had a quick look at *Spectrum 128* just before completing this article and I

can only tell you that to see a choice of 128 colours in full 80 column mode is quite amazing. That should be enough to make all 128 owners rush out and upgrade to a full 64K of video ram. See you soon.

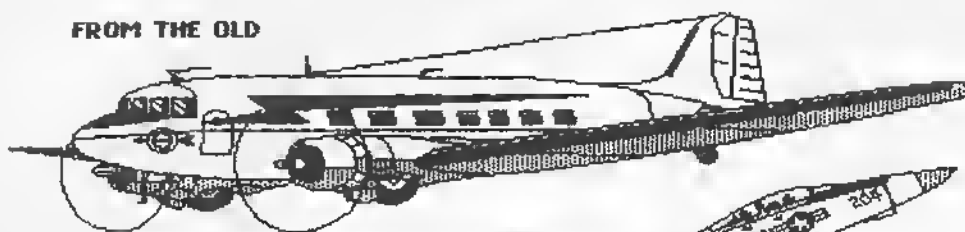
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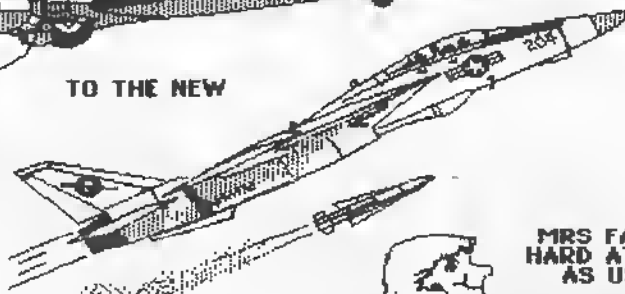
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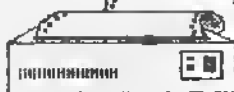
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THE END

Saving and replacing files on the C-64



The insidious bug to end all bugs, mentioned briefly in our January issue, is discussed in full here by Eric Holroyd.

Commodore have always refused to acknowledge that there is a bug associated with using the SAVE"@ command. Experienced users, on the other hand, have no doubts that there is.

For newer users who may be wondering what it's all about anyway, let me explain. First of all, the correct way to Save a file (it could be a program typed in from a magazine for example) is by typing:

```
SAVE "filename",8 (RETURN)
```

What this does is create the file on disk (note that none of this applies to tape users) which obviously then takes up a certain amount of disk space. This is shown in "blocks" at the foot of a directory when listed. Commodore DOS gives us 664 blocks free on a newly formatted (sometimes called "initialised") disk. Let's say we have a program which takes up 50 blocks and it's to be saved to disk.

By the way, it's always a good idea when typing in a program to save it before running it for the first time as a typo could make the computer do all kinds of unpredictable things. Maybe it'll even crash and lose all your valuable typing! All computer users have lost hours of typing this way, before realising the value of "saving before running", so make it your regular practice.

So, on a new disk there's plenty of room to store our 50 block file. Even if 614 blocks had already been used up in storing other programs we'd still have room to store (or save) it. Now comes the crunch! If there was a typing error in

the program it would need to be corrected and the program re-saved. This is where "Save and Replace" (or "Save with Replace" as it's sometimes called) comes in. Theoretically, by issuing this command along with the program name you can save the corrected version of the program and erase the version with the typing error. In other words, replace the first version with the corrected version. As Andrew said in his piece, what's believed to be the safest way to do this is to use the command exactly as follows:

```
SAVE"@:filename",8 (RETURN)
```

Unfortunately, the command as built into the C-64's operating system, saves the new version and then erases the old version. This wouldn't work in my example above ($614 + 50 = 664 = \text{Disk Full}$) as there isn't enough disk space available. There needs to be at least enough blank disk space to save a second version of your program for the command to have a chance of working properly. Again, as Andrew says, the best and safest way to achieve all this is to first of all Scratch (or delete) the first version then save the new version. The command for scratching a file, as per the 1541 disk drive manual is:

```
OPEN 15,8,15,"$0:filename":CLOSE 15 (RETURN)
```

(The 0 in "\$0:" is a zero by the way and tells the DOS, or Disk Operating System, which disk drive to work on. More about this in a little while.)

If we do this first, then save the program as per the first command above, there will be no danger of anything being corrupted. In fact, the whole job can be achieved with one command like this:

```
OPEN 15,8,15,"$0:filename":CLOSE 15:SAVE "filename",8 (RETURN)
```

C64 users who have the Cockroach TurboRom fitted to their computers can do all of this very much easier. This "add-on" is a great idea and has much shorter commands to do almost everything connected with the disk drive. It's command for "Save and Replace" is this:

```
@SAVE"@:filename (RETURN)
```

That's it! There's no need to type @0: to signify the drive number as the TurboRom automatically defaults to drive 0 and it knows you're using a disk drive anyway so doesn't need you to enter ",8. Also, when performing a "Save and Replace" it first of all scratches the old version and then saves the new version just as I've described for you to do manually just above. Incidentally too, when you list a disk directory to the screen to check the number of Blocks Free the Cockroach command is:

```
@$ (RETURN)
```

This gives a "harmless directory" which doesn't destroy the program in memory as does the normal Commodore DOS command of:

```
LOAD "$",8 (RETURN)
```

This wasn't intended to be a commercial for the TurboRom, but I'm so used to using it in my own C-64 that it seemed a logical thing to do to show how an "add-on" product solves the Save and Replace problem. At the same time it offers other benefits such as the directory one just discussed, as well as a huge increase in operating speed.

Another little point which may cause some confusion to new users is the use of the word "initialised". As I said earlier, this is often used instead of the word "formatted" when discussing a disk prepared for use with the command:

```
OPEN
15,8,15,"N0:diskname,ID":CLOSE
15 (RETURN)
```

@N:diskname, ID (RETURN) for
Cockroach users

Initialising seems to have two meanings in the Commodore 64 world, the one just discussed refers to preparing a disk for use. (Referred to in disk manuals as NEWing the disk - Ed.) Whilst the other use is taken to mean returning the disk drive to its start-up condition after a drive error has occurred. Sometimes the read-write head may get stuck in such a position that it can't read the information on a disk and "initialising" the drive will

return the head to its normal position. To further confuse things, this is also called a "drive reset", which is the way I prefer to think about it anyway.

The command to initialise the disk drive is:

```
OPEN 15,8,15,"IO":CLOSE 15 (RE-
TURN)
```

@I (RETURN) for Cockroach users

I mention this one because I fell foul of an American program once (before I understood the disk formatting meaning of "initialise") and finished up with a blank disk. Remember, when you see the word, think about it before you press the "Yes" button.

The bug in "Save and Replace" has been identified as being part of the original Commodore operating system which was carried over from their earlier computers with two in-built drives. Apparently, if no drive specifier (@0: or @1:) is used, the DOS gets confused and looks in a single 1541 system for the non-existent second drive.

When it doesn't find that second drive it performs a SAVE with (sometimes) disastrous results. You may finish up with a corrupted new version, a deleted old version, and a new typing job ahead of you.

I don't claim any of the kudos for discovering all this about "Save and Replace", it's just that I'd read all about it some time ago in *Compute!* magazine where Philip A. Slaymaker (the author of the excellent *Peek-A-Byte* utility) covered the subject over two issues. It's a good discussion running to about six pages and also has short example programs to demonstrate the existence of the bug and the effects it can have. If you're interested in a more long-winded explanation, hassle the editor and see what happens.

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The Trouble with Mice



by Lindsay Swadling

THE MOUSE supplied with the Amiga 500 is made to a price, not necessarily a quality. The switch contacts, especially, are the same style as those used in the cheaper joysticks, and lead to problems in some cases. For those who have never opened their mouse, or a joystick, I'll try to describe how these switches work. Better still, open it up now - I'll wait for you. Just take the two phillips head screws out of the bottom of the mouse, then lift the top cover off.

Fixing your mouse

There is a small printed circuit board (PCB) mounted on top of plastic pillars, which holds the switches. Each switch consists of a central contact on the PCB surrounded by an almost circular outside contact. On top of these sits a convex metal disc supported in three spots which touch the outer contact on the PCB. This disc is held in place with a piece of sticky tape (go and open it up now if you don't believe me!). When you press the button, this disc pops in and its centre touches the centre contact on the PCB. This system can lead to several problems:

- The contacts can tarnish by reacting with oxygen in the air.
- Dirt can get in under the sticky tape.
- The sticky tape can come loose.

Any of these happening can lead to switch "bounce", where the switch might make contact several times instead of once when it is pressed, or to the switch not working at all. The letter in the October issue from Pete Johnson about his mouse problems is an example of what this can do - icons get dropped at the wrong spot, or get opened instead of

moving. I have also occasionally seen the metal disc in a joystick flatten out, making permanent contact, which leaves the switch on all the time.

These problems can be rectified by cleaning the contacts and replacing the sticky tape. Peel the tape off and clean the contacts with a pencil rubber, then wipe over with methylated spirits on a soft piece of cloth or a cotton bud. Clean the metal disc the same way before replacing it with a new piece of tape. Make sure the discs go back in the same places they came from!

Converting a PC mouse

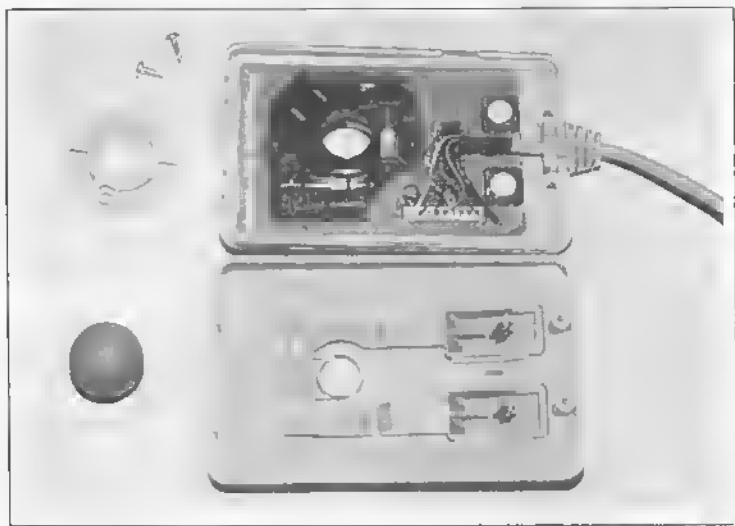
Most mice made for IBM-type machines use microswitches for the buttons. A microswitch is a small switch sealed in a plastic case in a very small package, rated for use in the 100,000s usually. Because it is sealed, dirt can't get in to upset things. Microswitches are extremely reliable, perfect for such an application. I have solved my mouse problems by converting a PC mouse to work with my

A500, as follows:

(The mouse was given to me by a friend who uses his PC for CAD work. He bought the mouse cheaply with the PC, but could not get it to work with the software he uses. After a little fiddling, he took the easy way out and bought one that did work. I received the useless one as payment for a job I did for him.)

The mouse I acquired is a Z-nix (pronounced zeenix, being American) and has three microswitches and a nine pin male D connector, the opposite to the Amiga mouse. Rather than cut the plug off to change it, and perhaps find it didn't work, I made an adaptor cable. This required two nine pin female D connectors and backshells, and a short piece of flat ribbon cable with nine wires.

I started by opening the mouse and finding the ground and +5 volt connections, then the three buttons on the mouse. (I wired up the third button according to the Amiga technical manual, but haven't yet found any software that uses it.) The horizontal and vertical movement were a bit harder to find - I had to jump in blind there. I simply



wired up the other four connections and tried it out - nothing happened. Swapping over two of the wires brought movement in one direction, then swapping another two brought the other direction to life.

Adaptor cable connections from Z-nix mouse to Amiga:

Amiga end	Mouse end
1	9
2	5
3	4
4	8
5	1
6	6
7	2
8	3
9	7

The ratio of movement in this mouse seems about the same as the AMIGA mouse, but the switches are much better.

This has been a worthwhile project for me.

How a mouse works

While you've got your mouse in pieces, let's have a look at how it works:

The black plastic block holds the two slotted wheels which activate the optocouplers to send the motion signals to the computer. Optocouplers work by producing a beam of infra-red light which is picked up by an infra-red detector a small distance away. The slots in the wheel interrupt this infra-red beam to produce a signal which the computer uses to determine in which direction to move the pointer. I have repaired one mouse, only two weeks old, which would intermittently refuse to move the pointer up and down. Cleaning the wheels and optocouplers didn't help. It was only when I had a close look with the top cover off that I noticed that the plastic block was moving

up off the main PCB. Careful use of the hot glue gun restored this mouse to normal.

I hope everyone knows by now about regular cleaning of the metal rollers which the ball turns. These gather dust and grease, and the movement becomes rough and the pointer jerky on the screen. To clean the rollers, remove the ball from underneath by sliding off the plastic clip holding it in place. Now attack the rollers with a cotton bud dipped in methylated spirit and remove all that build-up of junk. Clean the third roller as well - this is an idler, which keeps the ball centred.

A final word of warning - if you put your computer away regularly, don't wrap the cable tightly around the mouse or joystick. Most joystick faults are caused by wires breaking inside the cable right next to the plug, or at the joystick end. ■

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Astronomy and home computers

by Tony Smith

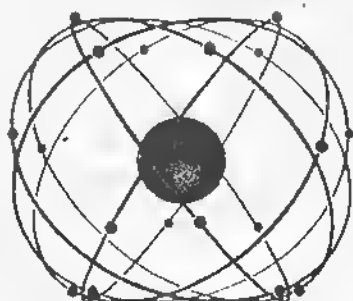
COMPUTERS HAVE been used for many years in the scientific field of astronomy. It has long been accepted that the computer can save many hours, days and even years of work by being able to quickly calculate the positions of the stars and planets at virtually any time in the past, present and future.

The Voyager project was envisioned by a computer plotting the positions of the planets for the great 'slingshot effect' which enabled Voyager to catapult from the orbits of the gas giants Jupiter and Saturn and thus gain the momentum required for its incredible journey to the outer reaches of the solar system. Without the mathematical and graphical capabilities of computers this phenomenon would have passed unnoticed or else noticed far too late to have been able to do anything about it.

The home computer does not go unsupported in this field and there are many fine programs available to cater for the needs of the amateur astronomer. I would like to examine four such programs, *Star Seeker* and *Sky Travel* for the Commodore 64 and *Galileo* and *Starmap* for the Amiga.

Star Seeker

Star Seeker was the first astronomy



program I used on the 64. Consisting of two separate modules, the stars are covered in one section and the Solar System in the other. Both modules are easy to use with scaling and timescales being adjustable to allow for visual displays updating at quite large intervals.

It is possible, for instance, to show the orbit of Halley's Comet in steps of several months at greatly increased timescales so you can see how it slows down at the limits of its orbit and accelerates rapidly as it nears the sun again on its return. It is also possible to go back in time to Halley's last visit in 1910 and see how much closer it came to Earth than on its latest visit.

The stars are well catered for with positioning anywhere on the earth possible but requiring a few calculations on the user's part in order to obtain true accuracy.

Sky Travel

Sky Travel on the other hand is a bells and whistles planetarium with simple location setting using a jet-plane flown to your location with the joystick on a map of the world. Time and date can be entered for any time past or future, even different types of calendars are available (Roman and Julian). Displays can be as a starmap, a view in any direction or a chart, an interesting feature is a transparent horizon so you can see what has just set or is about to rise.

If you look down too far, you see your feet on the screen so orientation is never a problem. When phenomena such as solar or lunar eclipses are in the news it is a simple matter to dial in the details

and *Sky Travel* will show you the feature, rain, hail or shine, day or night. I have found it to be remarkably accurate with anything I have given it.

Inputting your friends' dates and places of birth reveals such things as rising signs and ruling planets, sometimes strange things such as eclipses and planetary influences can be found. Constellations and planets are all able to identified by placing the pointer on the screen and pressing F7 or by choosing search mode and naming the required object, the information scrolls across the bottom of the screen until return is pressed again.

Starmap

For the Amiga there is a fine program on Megadisc 4 called *Starmap*, which is accessed from BASIC, losing a bit of speed on the way. A very accurate program once again, *Starmap* caters for up to 15,000 stars, although even with 1 meg aboard, runs out of memory if more than 13,000 stars are selected. With the ability to divide the sky into quadrants I found it a pleasure to use. Note carefully though, to use it at all, the screen preferences must be set at 80 characters or it will crash.

Galileo

The final program I tested was *Galileo*. Supposedly the best planetarium program for the Amiga, and at \$117 not a cheap one. Unfortunately it turned out to be my least favourite.

Suffering from distortion and tilted horizons, I had a lot of trouble getting to work properly in the southern hemisphere. At one stage going outside to see

Mars clearly to the east of the Moon, while inside Galileo was insisting that Mars was on the western side of the moon. Although I must admit that it does improve with familiarity.

Another problem was the painful protection method at the start which involved looking up some obscure question in the manual and then entering the correct word. As most of the questions could be answered by the average amateur astronomer it seems a rather good way of keeping people who would like to use such a program away from it.

Summing up, out of the four programs tested, the one I keep using is Sky Travel for the 64. Until an Amiga version comes out (hope, hope) I am going to stick with the 64 version. Both Amiga programs are too slow, too hard to set up and not as polished as Sky Travel, though as I said Galileo is becoming better as my ability to use it improves.

Finally, Star Finder on the 64 also gets a plus for ease of use and decent coverage of the solar system. Come on Amiga programmers, how about a planetarium for the Amiga which approaches the standards set by Sky Travel. ■



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Machine Code Tutorial *Part 9*

by Andrew Baines

Following on from Part 8, Andrew Baines looks at a program that formats the high resolution screen with almost the same ease.

Sometimes, mostly while bashing away on *Easy Script*, I become frustrated. This is quite a common occurrence. It is caused partly by the lack of WYSIWYG or what you see is what you get.

Another cause is the C64's lack of respect for industry standard, 80 column screens. These are marvellous creatures, displaying just the right amount of information, without wasting it. Being in desperate need of a decent 80 column word processor, I am prepared to ignore headaches, eyestrain, as these will not last as long as the satisfaction obtained from being able to see what you write.

There are, of course, excellent WYSIWYG word processors about together with excellent 80 column word processors. And to place the proverbial icing on the cake, there are marvellous WYSIWYG eighty column word processors available. I should know. I own one - *Paperback Writer '64*.

This is a computer journalist's dream and nightmare all rolled into one. The good part is that what appears on the screen is exactly what appears on the paper. And what appears on the screen is totally formatable, and easily changed.

This program supports 80 columns, and does away with the need for user manuals (I really must read *Easy Script's* one day). It has but one drawback that stops me from writing this article with it and that is that it does not support true ASCII files.

These are files that don't have strange control codes in them. Meaning that I can send my article straight to Andrew Farrell's desk in this format, ready for typesetting by the computer in Sydney. If I even think about control codes, the

computers that process this page and command the Apple Laserwriter will cringe, cough, splutter, and simply refuse to think (ie they stop).

This sad state of affairs is not good enough. I use word processors too much. (Another reason why I can't wait until I can afford an Amiga - 80 columns, spelling checkers, dictionaries, the works). So, one day I decided that *Easy Script* should be demoted, excellent program that it is.

The result of all of this is that I am still using *Easy Script* to write this article, even though the program below provides a way out of the 40 column syndrome. It makes the high resolution screen at \$2000 (all locations are chosen by the user) into a text screen of 80 columns.

I have yet to link it to CHRIN and CHROUT, the Kernal routines that provide you with your blinking cursor and editing facilities. I have yet to write a text editor to go with it. This is a daunting task that will probably never be properly completed, as it will be only my second major software package.

As usual, before this program's design, I sat down at the '64, determined to thump out a good word processor without first thinking about it. This sorry state of affairs soon exploded in my face as I realised that I had no way of putting 80 characters on the one line without using graphics.

Then I started writing this program, and a few weeks (and a lot of late nights and lost hair) later, came a finished version, which was simple enough even for me to understand later on.

I can never remember how the program I wrote last week works - I usually

end up rewriting the whole thing just to gain understanding. This is an inherent problem among programmers. Andrew Farrell requested my window program "Panels" in July and September 89 issues revised so he could follow my antiquated style of programming. I was not surprised to find that, while cleaning up my code, I could not read nor understand what it did either.

Eighty uses a high resolution screen. Do not cringe at this, choosing is easy. Most people (including myself) find the screen at 8192 (\$2000) very useful. It also uses colour memory. The default is 1024 (\$400) or the normal text screen. It also must have a character set to work with.

I suggest you purchase the disk magazine that this program appears on, as it will also contain a character set for use with this program. If you would like to design your own, use a normal character editor, and make two characters in the space normally taken for one. Use the same order for characters, and don't worry about reversed characters, as these can be achieved by colour methods.

If you are using the character editor that appears on Commodore's programmer's utilities disk, this is no problem, simply design 128 characters on the first grid of 64 characters. Remember to design upper and lower case on the grid, and in the same order as appears on a normal character set.

There are five basic routines involved in *Eighty*. This first is at 49152(SC000), and is for BASIC programmers only. It uses the syntax 'SYS 49152, "text or string to be printed on high res screen"'. This acts just like BASIC's PRINT statement, but you can't use TAB, SPC or

any other command after it, only variables, arrays, strings or numbers.

The second entry point is for machine code programmers. It is at 49165 (\$C00D), and you must load the Accumulator with the character you want printed before calling this routine.

Before you start printing, however, there are several preparatory routines that must be called. Firstly, the character colour must be decided. This is calculated by choosing the colour of the background behind the letter, and adding it to the character colour multiplied by sixteen, i.e. - background + character * 16 = total value.

Do this on a calculator - it remembers what operations go first. The final value must be POKED into 787 (\$313). Make sure you set your colour before you use *Eighty*. Setting 787 once is enough, just so you can see the characters printed.

The next routine you must call, is the clear screen utility, at 49571 (\$C1A3). It requires no parameters, just SYS 49571, or JSR \$C1A3.

Almost finished! Now we need to position the cursor, using the plot routine at \$49594 (\$C1BA). The format is SYS 49594,x,y - where x and y are the positions across and down the screen respectively. X ranges from 0 to 79, and Y from 0 to 24.

The last routine is for emergencies. *Eighty* realizes that it must scroll the screen when it prints off the end of the last line, but if you would like to scroll up, SYS 49485.

Eighty will not recognize characters beyond upper and lower case letters, space and return. The BASIC version will not print a return after every line, as it doesn't recognize semicolons after the text string. To print a return simply define CRS as CHRS(13), and SYS 49152, TEXTS + CRS.

Here is the source code for *cighty*:

```
140 *= 787
150 colorb .byt $10 ; cursor colour. You
must set this before using the routines,
otherwise you may not see what is
```

printed on the screen. Set it like you would the colours for your normal high resolution screen.

```
160 ;
170 ;
180 *= 814
190 point .byt <base,>base; cursor
position. This is the memory location
of the cursor. You must set this using
the plot routine before you use the print
routine, or things start to go haywire.
200 ;
210 ;
220 *= $C000
230 jmp start2
240 ;
250 xpos .byt $00 ; X position of the
cursor - not reliable.
260 ypos .byt $00 ; Y position of the
cursor - not reliable.
270 xtem .byt $00 ; Temporary use.
280 ytem .byt $00
290 where .byt $00 ; This is how
Eighty remembers where to put the
letter - at the beginning or end of the
eight bits in the byte. If where is zero,
STA to clear the letter after; if where is
SFF, ORA to make sure the previous
letter is saved.
300 chr .byt $00
310 set .byt $00, $10 ; Location of the
character set. This may be put anywhere
in memory: the basic loader puts it after
the code.
320 colour .byt $00, $04 ; Location of
the colour screen - or the normal text
screen.
330 endsc = $3F00 ; These constants are
used by the scroll routine (and others)
for various things. This one must be
Base + $1F00.
340 endco = $07C0 ; Colour + $3C0.
350 lastli = $3F40 ; Base + $1F40.
360 base = $2000 ; Base address of high
resolution screen.
370 scrt0 = $2140 ; Base + $140.
380 ; Please note that Eighty will not
turn the high resolution screen on (it
doesn't know which one), so this must
be done before Eighty is called.
390 ;
400 start cmp #13 ; Is the character to
```

be printed a return?

```
410 : bnc noret ; If not, noret.
420 : ldx #0 ; Do a return - make the
cursor's X position zero.
430 : stx xpos
440 : ldy ypos ; And increment the Y
position.
450 : iny
460 : sty ypos
470 : cpy #24 ; If the Y position is
more than 23, scroll the screen.
480 : bcc loop5
490 : jmp scroll
500 loop5 jmp come ; If not, plot the
new position.
510 : cmp #32 ; This routine checks
for unwanted characters.
520 : bec ed4 ; Throw away if less
than 32 (space).
530 : cmp #192 ; If less than 192, go
to st2 to check if its greater than 128. If
so, end. This makes sure we get no duds.
540 : bec st2
550 : sec ; If greater than 191,
subtract 128 to make it compatible with
the character set.
560 : sbc #128
570 : cle
580 : bcc cont4 ; continue printing.
590 st2 cmp #129
600 : bec note
610 ed4 rts
620 note cmp #64 ; If less than 64 (and
greater than 32), subtract 64 to make it
compatible with the set.
630 : bec cont4
640 cf1 sec
650 : sbc #64
660 cont4 sta chr ; Buffer for next
character to be printed.
670 : txa ; save the other registers on
the stack.
680 : pha
690 : tya
700 : pha
710 : lda 251 ; save 251 - 254 on the
stack.
720 : pha
730 : lda 252
740 : pha
750 : lda 253
760 : pha
```

```

770: lda 254
780: pha
790: lda point ; Put the cursor
      position in (251).
800: sta 251
810: lda point+1
820: sta 252
830: lda where ; check where the
      character has to be printed.
840: bne p2
850: ldy #0 ; Clear the eight by
      eight grid if the character has to be
      printed in the first nybble (four bits).
860: tya
870 p1 sta (251),y
880: iny
890: cpy #8
900: bne p1
910 p2 lda set ; Put the character sets'
      base address in (253).
920: sta 253

```

```

930: lda set+1
940: sta 254
950: ldx chr ; Now we have to test
      to see if the character is odd or even.
      And this part is labelled incorrectly. Odd
      should be even and vice versa.
      But if the character is even (we only test
      zero and one here), we have to get the
      data from the character set for it from the
      second half of the character (normal size
      is eight, we only use four).
960: beq odd ; If zero, odd.
970: cpx #1
980: beq even ; If one, even.
990: dex ; Decrement X to account
      for zero.
1000: clc ; This routine multiplies
      the character by eight, and divides it by
      two, to find its position in the character
      set. We need to do this to make sure we
      catch the odd ones at the end, to be able

```

```

      to separate odd from even.
1010 add lda 253 ; 253 is the base
      address of the character set. We add eight
      to it for every two counts of the
      character.
1020: adc #8 ; ADd eight to the
      Accumulator.
1030: sta 253 ; Store in 253.
1040: bcc cont ; If there was no
      overflow, continue.
1050: clc ; clear the carry, ready for
      another addition.
1060: inc 254 ; increment the high
      byte, as there was an overflow.
1070 cont dex ; decrement the character
      once to check if its odd.
1080: beq odd ; if zero, its odd.
1090: dex ; if not, we're not finished,
      or its even.
1100: bne add ; if not zero, not
      finished.

```

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1110 even ldy #0 ; It was even, so we have to push it left to get rid of the other character in that byte, ie: it exists in the character set in the second half of the byte, so we must push the byte left to drop the other letter off the end.	screen along with the other letter that could be there.	1870 : jsr scroll ; scroll.
1120 : ldx where ; check where it's got to go, in the left or right of the screen byte.	1440 : sta (251),y	1880 : clc
1130 e2 lda (253),y ; get a byte.	1450 : iny ; done enough?	1890 : bcc c5
1140 : asl ; shift it left to get rid of the other letter.	1460 : cpy #8	1900 end2 lda 251 ; save current screen position in cursor vector.
1150 : asl	1470 : bnc o2 ; if not, another byte.	1910 : sta point
1160 : asl	1480 end lda where ; change where to the other extreme.	1920 : lda 252
1170 : asl	1490 : eor #255	1930 : sta point+1
1180 : cpx #0 ; if where (contained in X) is zero, there's no need to move the character back to the right of the byte, so we can just store it.	1500 : sta where	1940 c5 jsr d2 ; do colour.
1190 : beq cnt	1510 : bnc end2 ; if where is zero,	1950 : pla ; get things back off the stack.
1200 : lsr ; Where was \$FF, so we need to move the letter back to the right, so it doesn't override the letter already there.	1520 : lda #8 ; increment the screen pointer to the next character.	1960 : sta 254
1210 : lsr	1530 : clc	1970 : pla
1220 : lsr	1540 : adc 251	1980 : sta 253
1230 : lsr	1550 : sta 251	1990 : pla
1240 cnt ora (251),y ; Logical OR with the screen.	1560 : bcc c6	2000 : sta 252
1250 : sta (251),y ; Store the byte on the screen.	1570 : inc 252	2010 : pla
1260 : iny ; if we haven't done eight bytes yet, do another.	1580 : clc	2020 : sta 251
1270 : cpy #8	1590 : bcc c6 ; fall through to check for end of screen.	2030 : pla 2
1280 : bne e2	1600 d2 lda colour ; put the colour pointer in (253).	2040 : tay
1290 : beq end ; if we have, end.	1610 : sta 253	2050 : pla
1300 odd ldy #0 ; It was odd, so we have to move the character right.	1620 : lda colour+1	2060 : tax
1310 : ldx where	1630 : sta 254	2070 : rts ; end
1320 o2 lda (253),y	1640 : lda 787 ; put the colour on the screen.	2080 scroll ldy #0
1330 : lsr ; shift a byte right, to get rid of the character on the right.	1650 : ldy #0	2090 : lda #<base ; put the base address in 251.
1340 : lsr	1660 : sta (253),y	2100 : sta 251
1350 : lsr	1670 : ldx where	2110 : lda #>base
1360 : lsr	1680 : bnc d4	2120 : sta 252
1370 : cpx #255 ; is where \$FF?	1690 : inc colour	2130 : lda #<scrt0 ; and the finishing address in 253.
1380 : beq cnt2 ; if not, store.	1700 : bne d4	2140 : sta 253
1390 : asl ; shift the letter back.	1710 : inc colour+1	2150 : lda #>scrt0
1400 : asl	1720 d4 rts ; end.	2160 : sta 254
1410 : asl	1730 c6 lda 252 ; check to see if we need to scroll the screen.	2170 sc lda (253),y ; copy 253 to 251.
1420 : asl	1740 : cmp #>lastli	2180 : sta (251),y
1430 cnt2 ora (251),y ; store on the	1750 : bcc end2	2190 : iny
	1760 : lda 251	2200 : bne sc
	1770 : cmp #<lastli	2210 : inc 252
	1780 : hcc end2 ; if not, end2.	2220 : inc 254
	1790 : lda #<endsc ; if yes, reset pointers.	2230 : ldx 252
	1800 : sta point	2240 : cpx #>endsc
	1810 : lda #>endsc	2250 : bne sc ; not finished.
	1820 : sta point+1	2260 : ldy #0 ; clear last line.
	1830 : lda #<endco	2270 : tya
	1840 : sta colour	2280 cl sta (251),y
	1850 : lda #>endco	2290 : iny
	1860 : sta colour+1	2300 : bne cl
		2310 : inc 252
		2320 cl2 sta (251),y
		2330 : iny

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2340 : cpy #>base+32	2740 : jmp \$b248 ; illegal quantity error.	3160 : dex
2350 : bne cl2 ; if not finished, cl2.	2750 okay jsr \$e200 ; get the Y value.	3170 : bne addy ; if Y < 0, do some more.
2360 : jmp \$e8ea ; scroll low-resolution screen.	2760 : stx ypos	3180 fi lda 251 ; put the final result in the pointer for Y.
2370 ;	2770 come ldx xpos ; Halve the value of the X position.	3190 : sta point
2380 ;	2780 : txa	3200 : lda 252
2390 start2 jsr \$acfd ; retrieve comma.	2790 : lsr	3210 : sta point+1
2400 : jsr \$ad9c ; evaluate expression - this routine allows strings or numerics.	2800 : tax	3220 : sec ; read the cursor position on the current colour line.
2410 : lda \$0d ; check for string or numeric.	2810 : stx xpos	3230 : jsr \$fff0
2420 : bne prit ; string, goto prit.	2820 : bcc seco ; set where according to the left overs.	3240 : txa
2430 : jsr \$bddd ; convert FAC1 to ASCII string at \$100.	2830 : ldy #255	3250 : ldx ypos
2440 : jsr \$b487 ; set up a string.	2840 : sty where	3260 : sta ytem ; save old position for later.
2450 prit jsr \$b6a6 ; return length of string in the Accumulator, and its location in (\$22).	2850 : bne thi	3270 : tya
2460 : tax ; transfer to the X register.	2860 seco ldy #0	3280 : ldy xpos
2470 : ldy #0 ; index to the string.	2870 : sty where	3290 : sta xtem
2480 lo2 lda (\$22),y ; output string to the screen.	2880 thi lda #>base ; reset base.	3300 : clc
2490 : jsr start	2890 : sta 252	3310 : jsr \$fff0 ; plot new position.
2500 : iny	2900 : lda #<base	3320 : clc
2510 : dex	2910 : sta 251	3330 : lda 211 ; low byte cursor position.
2520 : bne lo2	2920 : cpx #0 ; if X is zero, goto Y routine.	3340 : adc 209 ; column number.
2530 : rts ; return.	2930 : beq proy	3350 : sta colour
2540 clrscr ldy #<base ; reset pointer.	2940 xm clc ; add eight for every X position used.	3360 : bcc n9
2550 : sty 251	2950 : lda 251	3370 : inc 210 ; high byte cursor position.
2560 : lda #>base	2960 : adc #8	3380 n9 lda 210
2570 : sta 252	2970 : sta 251	3390 : sta colour+1 ; set colour from cursor positions.
2580 : tya	2980 : lda 252	3400 : ldx ytem ; restore old cursor position.
2590 stre sta (251),y ; store zero in screen.	2990 : adc #0	3410 : ldy xtem
2600 : iny	3000 : sta 252	3420 : clc 3430 : jmp \$fff0 ; KERNAL PLOT routine.
2610 : bne stre	3010 not0 dex ; decrement the X register.	
2620 : inc 252	3020 : bne xm ; if we're not finished, next X.	
2630 : ldx 252	3030 proy ldx ypos ; now for Y.	
2640 : cpx #>base+32	3040 : cpx #0 ; end if Y=0.	
2650 : bne stre	3050 : beq fi	
2660 : rts	3060 : cpx #25 ; is Y greater than 25?	
2670 ;	3070 : bcc addy	
2680 ;	3080 : jmp \$b248 ; if so, illegal quantity error.	
2690 plot jsr \$79 ; CHRGOT.	3090 addy clc ; add \$140 for every count of Y.	
2700 : jsr \$e200 ; evaluate expression, returning number in X register.	3100 : lda 251	
2710 : stx xpos	3110 : adc #\$40	
2720 : cpx #80 ; make sure the number is less than eighty.	3120 : sta 251	
2730 : bcc okay ; okay.	3130 : lda 252	
	3140 : adc #1	
	3150 : sta 252	

Well, that's the basic program. I'll probably get around to writing the word processor soon, and release it on disk. Don't count too much on it though. Next month, the continued listing of KERNAL routines.

If you have any ideas for this column, please share them with us, chances are that they will be printed. Don't send them to the main cave in Sydney, they'll never get to me. Send them to: Andrew Baines, 18 Roma Avenue, Wallacia 2750. ■

Modifying games

Mario Annetta



I once bought a game for my computer which boasted "over 20 different screens". It was a platform type game, where you control your character with the joystick, and jump about on different platforms picking up various items and dodging monsters. You advanced to a new screen when you picked up all the items, but lost a life if a monster touched you. When you lost three lives, the game restarted at the first screen again.

Although I'm no slouch with a joystick, I found it impossible to get past the third screen, even with the game set at the beginners level. I feel that this is unfair to myself and other people with my level of joystick expertise, as we are not able to access the "over 20 different screens" that we paid for.

What's more, I get sick of having to go through the same three screens over and over, always knowing that I'm never going to get past screen number three. I simply stopped playing the game about two days after I bought it, and haven't played it since. All of this leads me to the main theme of this article - how to modify your machine code games to make cheat versions.

Cheat versions

First of all, what is a cheat version? It is simply a modified game in which you are unable to lose a life, so that you can continue playing as long as you like,

giving you a good chance to reach those previously impossible levels.

There is a cartridge available which claims to have this effect on your games if you have it plugged in while playing. As I have permanently modified several games myself I will try to explain some methods for doing it yourself.

These methods will require some technical knowledge. A familiarity with the use of a machine language monitor, such a Micromon or Supermon will be assumed, as well as a basic understanding of machine code. Don't let this put you off if you know nothing about machine code, as reading this article just might encourage you to start learning it.

If you're going to try it, the most important thing to do is to make a backup copy of your game first, and only experiment on this copy.

Sprite collision

There are different ways of making cheat versions of games, but in this article, I'll concentrate on disabling sprite collision detection.

In most games, the characters that move about on screen are sprites, and often their collisions are detected by reading memory location 53278 (hexadecimal \$D01E). When this location reveals that a collision has occurred in a game, you usually end up losing life. If you disable the collision detection, then you could

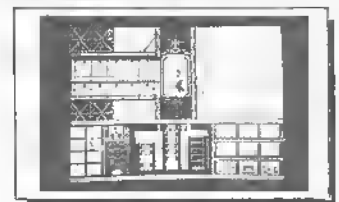
theoretically keep playing forever, never worrying about touching monsters, or getting hit by bullets etc.

What you will have to do first is to load the game into memory through a machine code monitor. A monitor which sits at location 49152 will leave all of the BASIC RAM area free for you to load the game into.

Most monitors have a Search or Hunt facility. Use it to search through the game for the occurrence of the following three bytes shown in hexadecimal AD 1E DO.

These three bytes represent the command LDA#\$D01E. Games that use collision detection often use this command to read the collision detection register.

If you change every occurrence of those three bytes to A9 00 EA, which represents LDA#\$00 NOP, then that might be the only modification required. This will tell the game that no collisions have occurred, by putting a zero into the A register every time it wants to read the collision register. The NOP is there to occupy the one byte that is left over from the change.



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When you have made the modification, save the game back onto disk, then try loading and running it. It may not be successful the first time, especially if the bytes AD 1E DO occur more than once. You may need to experiment with changing only one set of bytes at a time, they trying it out.

If you cannot find the combination AD 1E DO try looking for AE 1E DO (LDX\$DO1E) or AC 1E DO (LDY\$DO1E). The LDX and LDY commands have the same effect in reading the collision register as LDA, but they need to be modified differently. Change AE 1E DO to A2 00 EA, and change AC 1E DO to AO 00 EA. Once again, this may require some experimentation.

Loading and saving

One of the main problems you may encounter is in the loading and saving of the game through the machine language monitor. You should try to load the game into memory area that it normally occupies when you play it. However some games that load into awkward memory location, such as the area where your monitor is sitting, may need to be loaded into BASIC RAM as previously mentioned.

You can then modify it and save it to disk, but the new version will load into the BASIC RAM area where it was saved from. If this is the case, then you will need to alter the load address shown on the game's first sector on the disk in order for it to load into its correct memory location.

The technique for doing this could fill another article, so I'll leave it to you to learn it from one of the many books on the subject of the Disk Operating System.

I hope that this article will entice some people into trying to modify their games. You may need to use your own initiative and elaborate a little on these techniques in order to achieve success.

Many games will not respond to the method outlined above, but I was successful in modifying the following games - *Impossible Mission*, *Cauldron*, *Munch Man*, *Jet Set Willy*, *Jumpman*, *Arabian Nights*, *Manic Miner*, and a few others.

Apart from disabling sprite collision detection, some games can be modified so that they give you an unlimited number of lives, but that's a different story. ■



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An Introduction to the C Programming Language Part 5

by Adrian Sheedy

Variable Longevity

In BASIC, every variable that you use can be changed or accessed from anywhere within the program. i.e. They are 'Global' variables.

For example, if you let the variable 'A' equal 2 at the beginning of a BASIC program, and then call a subroutine which changes 'A' to 4, then 'A' is globally changed to equal 4. The value of 'A' will be present everywhere in the program.

This 'globality' of BASIC variables is a haven for program bugs. How often have you changed the value of a variable only to find it has caused some other undesired side effect. Such effects can be minimized with C. This protection is provided by variables not always being alive everywhere in the program.

When the area of program in which a variable is 'alive' is defined, debugging can be greatly simplified because you know exactly what is happening to any variable at any time. In a less strict language it is easy to perform an operation on a variable when you didn't mean to. And if this is done in a far off place in the depths of your code then it will prove difficult to find.

Thus with the added difficulty of having to understand variable lifetimes, better named 'scope', you gain the advantage of simpler debugging, more maintainable code, and code that is more easily understood by others. As you will see, this added difficulty is not such a great burden to bear for any newcomer to C.

Variable Scope

There are four places where the scope of a variable pertains: blocks, functions, function definitions, and files. The scope

of any variable within one of these confines means that the variable will become visible upon entering the confine and will end on exiting it.

For instance, a variable with function scope becomes visible at the beginning of the function, and ends at the end of it. Table 1 lists the types of scope and place where that scope can be used in a program. (see table 1 below)

Function Scope

Labels are the only type of variable which has scope over a whole function and labels must be unique within a function. i.e. Another variable with the same name cannot be re-declared in a block in that function. They can be used in other functions without any conflict. (see example 1)

Block Scope

A block is any portion of code which is bound by open and close braces: {, and }. Such variables are typically called Local variables since they are only known locally to that block. There is one small exception to this involving 'local externals' which will be discussed next month. (see example 2)

'A' has scope over the whole function. 'B' only has scope over the block in which it is declared. Therefore the first printf will give A=1 and B=2. But the last printf will cause an error because B has gone out of scope after the close brace. 'B' has block scope.

File Scope

These variables are those which are declared outside of any function. The scope begins when the variable is declared and ends when the current file has been analyzed. This means that when a variable with file scope goes into scope it can be seen by any function or variable below it, but not above it. (see example 3)

Since 'A' is declared outside and after 'main()' it is not known to 'main()'. In other words, the scope of 'A' is not known until it is declared. Only then can 'A' be referenced by the parts of the program which follow it.

Function Declaration Scope

This is the easiest to remember of all the scopes. It is simply a variable declared in a function declaration. The scope ends when the declarator ends. If however the function declaration is the function definition as well, then the scope is over the whole function as with Function scope.

Advantageous Scope

So how do you use scope to your advantage? Well the idea is that you keep variables alive only in the places where they are actually used. You could declare all variables at the beginning of your program so that they all can be referenced from anywhere.

But this is not using C to its fullest

Type of Scope	Variable Visibility
Function	Labels
Block	Declarations inside a function
File	Declarations outside a function
Function Declaration	Declarations within a Function Declaration

Table 1

capacity, and is most un'C'like behavior. If a variable isn't used in a function, then don't let it get there by giving it larger scope than it needs.

Now examine this example in which the variable 'A' goes in and out of scope at various levels: (see example 4)

The output is :

```
A at a is 4
A at d is 5
A at b is 3
A at c is 4
```

At point 'a', 'A' is a local variable within main(). The first declaration of 'A' is put to the side when it is redeclared. This doesn't mean that the first 'A' is dropped for the new one, it has just taken a back seat for the time that the new one is in scope. This is why at point 'd' it is equal to 5.

The 'A' declared in main() is out of scope so the old one is reinstated and is active. At point 'd' there is no local declaration of 'A' so it picks up the file scope 'A'. At 'b', 'A' has block scope since it was declared again after the open brace. So the value at 'b' is naturally 3.

Both of the previous 'A's were put on the back shelf (but not forgotten) while 'A = 3 took prominence. This is valid C and illustrates how you can declare variables closer to where they are used. At 'c', 'A' is seen as a local variable within main(), the same as at point 'a'.

Note : Some may find it confusing that I have used 'A' so many times in the one program. This was done just to illustrate how variables are seen and then not seen, depending on where you are in the program.

We could have used different variables for each of the three places here, but then it would be difficult to see when each one was turned on and off.

Note also: These example programs presented here are for clarification purposes and will not necessarily compile without some minor adjustments.

That should do for this month. Next time we will clarify the points given here and take a look at an even juicier concept of C programming: Linkage. And maybe even take a peek at pointers.

All of these very technical installments of this column are bringing you to the point where you can write efficient and easily maintainable code which takes advantage of all of C's best features. ■

Example 1:

```
void func (int) ; /* function declaration */
main()
{
    func (1) ;      /* calls func () */
    ...             /* and passes 1 to it */
}
void func (A)      /* function definition here */
int A ;            /* 'A' has function scope */
{
    printf ("%d\n", A) ;
    ...
    ... /* other stuff */
    ...
}
```

'A' is visible right throughout the function 'func()'.

Example 2:

```
main()
{
    int A = 1 ;
    if (A = 1)
    {
        int B = 2 ; /* block scope until the */
                    /* next close brace */
        printf ("A=%d, B=%d\n", A, B) ;
    }
    printf ("A=%d, B=%d\n", A, B) ; /* error */
}
```

Example 3:

```
void func () ;
main()
{
    func () ;
    printf ("%d\n", A) ; /* error */
}
int A = 1 ;
void func ()
{
    printf ("%d\n", A) ; /* A = 1 */
}
```

Example 4:

```
int A = 5 ; /* file scope */
main()
{
    int A = 4 ; /* local within main */
    printf ("A at a is %d\n", A) ;
    func () ;
    {
        int A = 3 ; /* block scope */
        printf ("A at b is %d\n", A) ;
    }
    printf ("A at c is %d\n", A) ;
}
func () ;
{
    printf ("A at d is %d\n", A) ;
}
```

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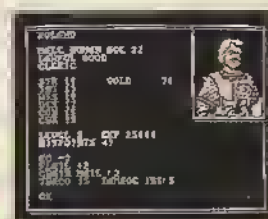
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Adventurer's Realm

by Michael Spiteri

Welcome once again to the dark and mystic caverns of Adventurer's Realm, Australia's only adventure column for crusaders on Commodore computers and Amigas.

If you are stuck in an adventure, can give help in an adventure, or just have something to say about an adventure, then enclose a stamped addressed envelope, and write to . . .

Adventurer's Realm, 1/10 Rhoden Court, North Dandenong, Vic 3175.

If it's wargames you are into, then Barry Bolitho is always around to chat with, so just mark the envelope Wargame Section.

Those of you who love role-playing games, Kamikaze Andy and his Dungeon has all the hints and tips required to get you out of a sticky spot. Write to:

Role Playing Dept, 44 Hawkesbury Drive, Willeton, WA 6155.

New free hint sheets !

Thanks to David McKinney, we now have hint sheets for *Bards Tale II* and *Bards Tale III*. They're pretty big beasts, so please only ask for them if you desperately need them. The other free hint sheets are still available:

Bards Tale I, II, III, Zork I, II, III, Hitchhikers Guide to the Galaxy, Lord of the Rings, The Hobbit, Castle of Terror, Borrowed Time, Faery Tale, ZZZzzzz, Never Ending Story, Pirate Adventure, Adventureland, The Pawn, Dracula Pt I.

Make sure the envelope you enclose is big enough to handle the hint sheets you require - and don't ask for ALL of them! ■

Reach for the Stars was an international hit when it was released many years ago. It broke new ground for Australian software, and Strategic Studies Group, led by authors Roger Keating and Ian Trout, went on to release many classic wargames, starting with *Carriers at War*.

Reach for the Stars at the time of its initial release was labelled as a strategic programming marvel with its easy-to-use total menu driven control that SSG have become so famous for. Well, many years down the track, the huge box has shrunk down and the menu-driven control has been enhanced to almost perfection. And for the first time ever, it appears live on the Commodore Amiga.

What is *Reach for the Stars*? It is a strategy game that involves exploring the vast galaxies, colonising promising planets and dealing with alien threats that might pop up now and then.

Once you have chosen a planet, you then have to decide how to allocate cer-

REACH FOR THE STARS

tain resources such as defence, research and development, environmental and social factors, consumer contentment and industry. Once you've done that, and you think you've done a pretty good job, you can do it all again on another undiscovered distant planet. If you are mean enough, you can attack some of the colonies created by your opponents (computer player and/or humans(?)).

There are always four empires in every game, so if you play by yourself, the computer controls the other three empires. So in effect you can have as many players as you want - just team them up into the four groups.

There are too many features about *Reach for the Stars* to all be mentioned

in this review, but its greatest feature has to be its flexibility.

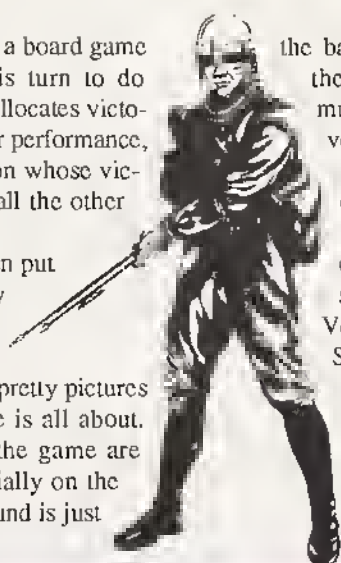
The number of ways this game can be played is beyond millions. You can spend your time developing colonies, making them powerful over the

years. Or you can be a Barry Bolitho and treat it as a wargame and attack everything in sight - yes, become a mean green fighting machine! You can colonize planets just for military purposes, or the opposite, just as a huge holiday camp. You can even team up with everyone else and strategically bash up the computer player!

As I mentioned before, gameplay involves using the easy-to-use menus to get things done. You examine planetary maps and charts, and allocate power to each of the above-mentioned resources. You can then jump on a spaceship and explore the galaxy to see what's happening. You might want to start a starship battle and conquer more worlds!

The game is set up like a board game where each player has his turn to do something. The computer allocates victory points depending on your performance, and the winner is the person whose victory points are more than all the other players - combined!

More emphasis has been put on strategy and gameplay rather than sound and graphics, so don't be surprised if you don't see any pretty pictures - that's not what the game is all about. The graphics that are in the game are crisp and colourful, especially on the Amiga version, and the sound is just



the basic sound effects. Also the Amiga version plays much quicker than the 64 version.

Documentation is clear and adequate, with a special section for newcomers. As for hours spent playing the game? Very many. However, a SAVE utility has also been included for convenience. Colour maps are also included in the package.

Reach for the Stars

is a game that should be enjoyed by adventurers, role-players and wargamers - maybe that's why it has become so successful. The game has built up a cult following, so finding special interest groups and new opponents shouldn't be much of a problem. For around \$50, *Reach for the Stars* is money well spent, and with the improved gameplay of the Third Edition, enjoyment should be guaranteed. Not to be avoided, third time around. ■

Published by Strategic Studies Group. For the Amiga and C64.
Rating: 95 out of 100

The Dungeon

by Kamikaze Andy

Roleplaying Games

(continued from last month)

Once your characters are up and running, numerous options are available. Your party may decide to indulge in some orc-bashing. Or perhaps they would prefer a pint at the local inn. Conversation with other characters is the usual means of picking up clues and various bits of information in most RPGs.

By far the most important factor in any RPG is combat. Only through fighting can your characters improve on their statistics. Success in combat increases one's attributes, as well as giving some experience points and, more importantly, gold and discarded weapons can be gotten.

Modes of combat differ according to the scenario of the RPG you are playing. Those set in worlds of fantasy may have a choice of weapons to wield during battle, as well as the use of magic spells. Futuristic RPGs allow for the use of lasers, missiles and LAW rockets (WOW!). All in all, massive destruction is wrought, but be careful or your party will bear the brunt of the onslaught.

Once you've mastered the basic concepts of whichever RPG you're playing,

it will be easy to ready yourself for the main task at hand. This may range from killing the bad guy (as in most RPGs) to becoming an Avatar (as in *Ultima IV*). More often than not, the RPG contains several subquests which yield to your final goal, and they must be completed in order to move on in the game.

"Gee, what types of RPGs are out there, Mum?"

Most of the RPGs released today are set either in futuristic, science-fiction worlds, or in a medieval, fantasy realm populated by dragons and trolls. Futuristic RPGs use either space or a post WWII earth, examples being *Starflight* for the former, and *Autoduel* or *Wasteland* for the latter. Sci-fi RPGers can select from an arsenal of rockets and guns as offensive weapons. While an impressive range of armour is also present, ranging from Pseudo-chitin armour to leather spiked boots. Futuristic means of transport are also available, including skimmer-craft and spaceships.

In contrast, fantasy based RPGs only allow horses or boats as modes of movement, although *Ultima IV* featured a bal-

loon, and *Ultima V* has a flying carpet. Weapons range from maces, to balbers, to two-handed swords. Among the more famous fantasy RPGs around today are the classic *Ultima* series, the *Bards Tale* series, the *Questron* and *Wizardry* series, *Dungeon Master*, *Faery Tale*, and the recent release of *Pools of Radiance*, the officially licensed AD&D computer role-playing game.

Lately, there has been a trend to introduce role-playing elements into normal adventure games. Last year Infocom came out with *Beyond Zork*, a text adventure with some roleplaying in it. Another 1988 release, *Legend of the Sword* (MS: see review in Jan 89 issue) also contained roleplaying features. As a sequel to *Legend* is already in the works, and Infocom has continued its direction towards more traditional RPGs on new releases such as *Battletech*, *Journey* and *Zork Zero*, perhaps this indicated how fast the RPG market is growing. Who knows, maybe even *Magnetic Scrolls* will start to turn towards the RPG arena!

Next month: Perspectives and ... conclusion! ■

Problems, problems and more problems (or the Troubled Adventurers' Dept)

Tony Newmann has since left *Zork* to trouble me with OO-TOPOS problems. He cannot get the nav-chip (apparently it is too radio-active to touch). He would also like to know if it is possible to talk to Grix.

Another regular, Jason Butler, is having problems in *Classic Adventure*. All he wants to know is what to do in the repository at the end of the game.

David Oxley of Deniliquin in NSW is stuck in *Holy Grail*. David wants to know how to cross the five after leaving the cave. Also, how do you get rid of the knight who says (NIC), and how do you

enter the castle without being killed by the guard.

David McKinney is famous for being stuck on the same problem for months on end. He still wants to know how to kill the evil Lich in the Helm, and he still wants to know how to get *Dracula Pt 1* to tell him his name is Harker!

Beverly (the beaver) Weegan is having great parmacles in a game called *The President is Missing*, and she asks the following questions...

1) How do you get to see the confidential files?

2) How do you get access to the files of data?

3) What are the numbers in the photographic files?

4) Where is the Official Report found in the documents?

Jamie Roelofs of 10 Mararoe Avenue, Norseman, WA 6443 is stuck in the *Holy Grail*. His problem is that he can get to the grail, but the cave he passed has a wizard practising his magic with fireballs, and he found that when he passes back through with the grail, he dies. Can anybody send Jamie the answers to his problems. Ta.

Beth Herring is stuck in *Drak*, a very kinky game! She writes...

"How do I get the chained woman down and when I do will I then be able to pick up the crowbar?"

The Smart Adventurers Dept

Game: **Drak**

For: Glen Williams

From: Beth Herring, A. Bruckner and David Oxley

Problem: Painful plant

Help: Eat some garlic, then you should be able to pass the plant. Or, throw the cap over the key.

Game: **Drak**

For: Simon Rawlings

From: Beth Herring and David Oxley

Problem: Troublesome dog.

Help: Drop the bones near the dog.

Game: **Arazoks Tomb**

For: G.A. Hockey

From: Fatty M.

Help: To operate the TV screen, you need the disk (found past the revolving wall).

To enter the travel tube you have to get the power pack and remote control. A car will come and carry you off. When you exit the car, do not go up - that is where the snake is. There is a ramp which goes down. By getting in the car and going you have therefore got past the snake.

Game: **African Safari**

For: Glen Williams and Simon Rawlings

From: Beth Herring

Problem: Lost in the desert.

Help: Find the signs and follow the directions they give.

Game: **Dracula Pt 3**

For: Brendan Burns

From: Mr M. Morris

Problem: Catching the right train.

Help: When you are on the platform, go west, south, south. This will take you to the other line, and remember who you are going to see.

Realm's super hints and tips - Part II

Planefall

- A Ladder is good for getting over rifts.
- Transmission console needs a coolant.
- Ask Floyd to get the fromitz board from the storeroom.



Spiderman

- Don't know what to do with the gems? Drop them in Madame Web's room.
- Push elevator when stuck in a shaft.
- Raise thermostat to empty aquarium.
- Feel the directions in the cloud.
- The maze is simply down five times.



Seabase Delta

- Enter 104 and 199 to launch small missile.
 - Make a pancake and throw it at the lens.
 - Reflect the light with some foil.
 - Examine the auto to use the auto-clerk.
- Wear flippers to get to the table.



Snowball

- To revive female crew member, take the coffin to the revival chamber.
- Do not cut the tubing. There is another exit.
- Space helmet and suit required to leave the ship.
- The maze is a web of cables connection the main ship to the drive units.

Bards Tale I (by Mr. M. Morris)

You need never run out of money in this game. All you have to do is give all your money to one of the characters, and then remove the character while inside the Guild. Then add that character to the

party. Do the same to all the members of your party. Without saving the party to disk, switch off the computer. You have just multiplied your money by six.

Bards Tale II (by Mr M. Morris)

This tip only works if you have *Bards Tale I*, or a *BT I* character disk. While you are in Garth's equipment shoppe, insert the *BT I* disk and buy something. You will find you can buy anything in the game, including all segments of the Destiny Wand for 20,000 each, or even the complete wand. Using the above tip for *BT I*, you should be able to raise enough money by upgrading characters.

Zork I

- Don't kill the thief unless you have already worked out how to open the egg.
- In the loud room, echo!!
- Turning a bolt with a wrench will open gates.
- In the forest, wave the sceptre.

Zork 2

- Well, what is the answer to the riddle?
- Brick, string and paper makes a balloon fly.
- Red, blue and clear spheres make a black one!
- Wave the wand at a certain rock, then chant float.

Guide for contributors

EVERY MONTH WE receive dozens of submissions from would be writers. For these we are most grateful. If you have considered writing for the *Australian Amiga* and *Commodore Review*, here's a few guidelines. The majority of contributions are accepted, however as we have a larger number to choose from these days, a few more stringent guidelines need to be met.

Style: Easy to read, entertaining and informative. We aim to be an enjoyable easy to read publication - with a smattering of technical articles for those so inclined. We are most interested in tutorials, "how to" type articles, and general hints and tips. Programs are also sought after for our disk magazines, Suite 64 and Amiga Live!

Format: Don't include any formatting such as printer controls, centred headings,

print styles etc. Put a space after commas or full stops. Do not indent paragraphs. Numbers under 10 should be typed. We prefer contributions on disk - Commodore 64/128, Amiga, MS-DOS and even Macintosh. Don't double space. Just a straight ASCII text file is all we require. We also accept contributions via modem once you become a regular contributor. Baud rates of 300, 1200, 1200/75 and 2400 are supported.

What to include: A brief letter, if it's your first effort. Your phone number - this is the most important thing! And put your name at the top of the actual article, not just on the letter.

What you get: Fame and a little fortune. Writing is a lot of fun. You'll get payment of \$50 per 1000 words - paid about one or two months after publication and a free subscription to the magazine af-

ter your third article. We take receipt of the article as permission to publish - you may not always be contacted before we use your article.

Where to send contributions: Post articles directly to *The Australian Commodore and Amiga Review*, 23 Bonnefin Rd, Hunters Hill. Or call (02) 817-0011 to arrange modem transfers. Don't send us your original - we cannot guarantee return, and it may become damaged in the post. Send 5 1/4 inch disks in an Australia Post cardboard Post Pak especially designed for carrying disks. Do *not* use padded post bags - these have a tendency to make the postman want to bend them in half. Amiga disks can just be sent normal mail.

That's it! For a more detailed version of the above, call our office and ask for the complete writers guide. ■

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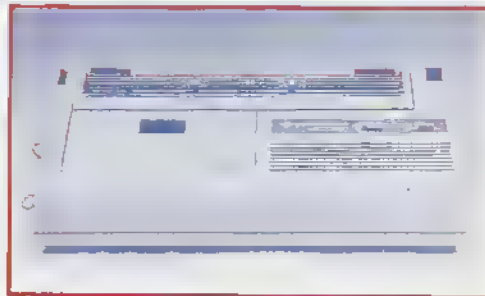
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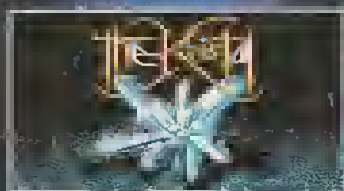
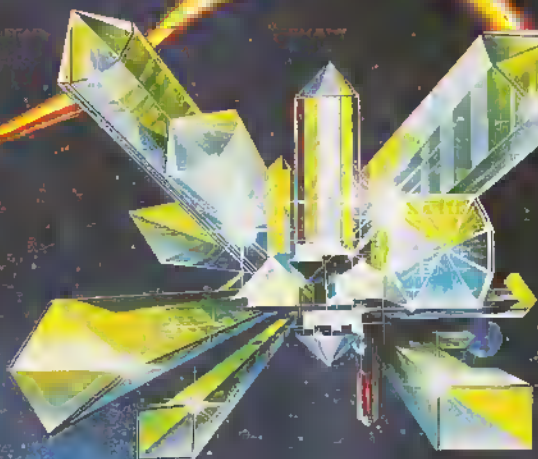
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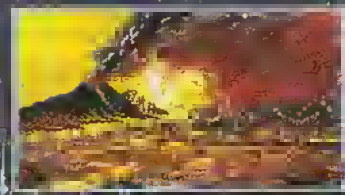
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